NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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R. P. EATON & CO., PUBLISHERS, OFFICE, 34 MERCHANTS' ROW. MONTHLY. SIMON BROWN, S. FLETCHER, } EDITORS.

MAY.

MAY day, poetry of the Father land; May-poles twined with flowers; the Queens of the May, with their bevy of fair companions, crowned with garlands; and all the sports of the green, of which we so delighted to read in the days of our childhood are sadly out of season with us. From such scenes we are separated by the cold waters of the broad Atlantic, and the icebergs rolling and tumbling in its stormy waves, and our fair damsels, instead of weaving the mazy dance in the open air, with their arms bare, and heads covered only with flowery wreaths, are still wearing their furs and shivering under the folds of woolen garments. But the season for putting in the seed has come, and "he that will not plough by reason of the cold, shall beg in harvest, and have nothing." The work must go on. The spring time has come,—the seed time promised,—and it must be improved. We must act in accordance with nature's laws, and the time and the season are as much fixed by her laws as any other conditions on which success depends. Would that we understood her laws better, and observed them with more care. Living in the presence of nature, and in constant communion with her, how greatly would the farmer's happiness be promoted by a knowledge of her laws,—of the natural sciences. He is constantly observing effects. Why should he not know the causes which produce them? While nourishing and cherishing vegetable life,—while engaged in covering the earth with beauty,—in bringing forth the flower and fruit, and perfecting the harvest, how much pleasure would he find in a knowledge of vegetable physiology, which would reveal to him the processes and the instrumentalities by which all these results are accomplished. Some rare plant, some new and beautiful flower, arrests his attention. Could he call to his aid the knowledge of botany, and learn its habits, its uses, and its name, how much would his pleasure be increased? Almost constantly delving in the earth, how would his labor be lightened by an acquaintance with geology which would teach him the nature and composition of the soil he is working? As he follows the plough, and opens the bosom of the beautiful soil, he would be

able to read lessons of divine wisdom written upon its teeming furrows. As he sees the matchless beauty of the blade springing from the seed which he has scattered, first gay with flowers, and then loaded with rich fruit to fill his storehouse and feed himself and those dependent upon him, would he not find great satisfaction in knowing how this wonderful result has been effected? An apparent miracle has been wrought in his presence,—and yet it it is no miracle, for it has been wrought in accordance with law. Shall he not seek to understand this law of beauty and growth, and thus feel that in laboring for the same result, he is a co-laborer with nature? Living in the open air, he observes the movements of the clouds, and spans the firmament with his eyes. How grateful to him would be a knowledge of the philosophy of light and air,—of the winds and storms,—of rain and drought. And the movements of the heavenly bodies, and the eternal laws which govern the solar system, how would a knowledge of these elevate his mind and quicken his devotion.

All these matters, and many others of the same class are closely connected with the practice of husbandry, and the advancement of agriculture, and do they not contribute to the daily enjoyment of the farmer himself? It is to be hoped the time will come, when the farmer shall be familiar with such knowledge. Never, till then, will he feel the strength of the position which he occupies. Then let him press onward, seeking for knowledge, not only as a means of success, but as a means of ennobling both himself and his calling.

What the farmer needs most to know is the principle that governs,—the philosophy that underlies and controls, every operation. His farm is a mighty laboratory,—every operation an experiment. While these are going on, he should watch them with an intelligent eye, and trace effects to their causes, and understand how his plants are fed, and on what they feed; how much food they need, and how it should be modified to promote their health and growth, and how they are affected by climate and season. In short, let him study the laws of nature. These are uniform and certain, and only when he learns to conform to them, and act in accordance with them, will he achieve satisfactory results, and comprehend the true nobility of his work.

AMERICAN WOOL.

Mr. Edward Harris, the great Rhode Island manufacturer, wrote a letter, dated January 30, 1868, to the Congressional Committee on Ways and Means, in which he says that in thirty-seven years' experience in manufacturing he has never seen the business so depressed as at present; that for the best goods, the South American wools are necessary; that the present tariff on this kind of wool amounts to 30 cents per cleansed pound, in gold, and consequently the drift of his letter is to convince Congress that the depression in manufacturing is the result of the operation of the tariff on wool. In commenting on this letter, Dr. Randall says in a late article in the *Rural New Yorker*, that he knows of only two other manufacturers—Mr. Hazard, of Rhode Island, and Mr. Slater, of Massachusetts,—who agree with Mr. Harris in his views. That the great body of manufacturers in the country do not sympathize with him appears from the fact that the following resolution was adopted unanimously by their National Association at its last annual meeting, October 2, 1867:

Resolved, That the present tariff on wool and woolens is as well adapted, as any legislation which can be devised, to promote the growth and development of wool manufacturing and wool growing, and the interests of consumers and the public revenue.

In addition to this, Dr. Randall publishes the following letter from another "manufacturer of reputation," whose name he does not feel authorized to give, in which some of Mr. Harris's positions are directly controverted:

"In answer to the letter of Mr. Edward Harris I will say, that few of the manufacturers of cassimeres and cloakings have closed their mills. I will only name a few that have not. The Riverside Mills, Lippet Mills, Ouby & Metcalf, near Providence, R. I., Ed. S. Hall, Millville, and Messenger & Wright, of Worcester, Mass., and many others in the vicinity of Mr. Harris' Mills; the Globe Mills and Steam Woolen Mill at Utica, the Empire Mill at Clayville, the Elboeuf and Mohawk Mills at Little Falls, the Mowry and Huntoon, Eaton, N. Y., the Troy Woolen Mills, the Washington Mills at Lawrence (whose goods were so handsomely noticed at the Paris Exposition;) the Burlington Mills and S. Woodward's of Vt.; the Yantico Mills, Franklin, N. J., and the Newark Woolen Mills, Geo. P. Evans' Mills, of Philadelphia, and a great many others make as fine goods as Edward Harris, or can make them, and all made or nearly so of American wool. Many of the mills mentioned make medium goods as well as fine. I saw as fine a piece of goods of silk and wool, within a week, that was made in Indiana, as Edward Harris can make. Did the manufacturer get his wool from South America? Not a bit of it. It was raised in the United States. There is plenty of fine wool and at fair prices, to those who can give good city paper or cash. If the mills named

are losing money, the consignee of foreign goods is losing more.

"The importations are falling off, and if the tax of two and a half per cent. is taken off, the manufacturer will survive in spite of the pauper labor of Europe. In Austria 15 cents is the price per day of a man's labor! We have as fine a wool-growing country as there is in the world. West Virginia has produced the finest wool in the world, according to the statements contained in the work of Aquilla Brown, of Philadelphia. We can and should grow our own fine wool; and it will be done unless such theories as Mr. Harris' prevail. It is the manufacturers' interest to use our own wools and encourage our own growers. The staple is stronger and better adapted to our business than South American wool.

"What ails Mr. Harris is that he has held his goods, many of them old styles, for one and two years; and he now finds it hard work to compete with most of the mills which sell their goods in the season for which they were made. He has another trouble. He is the largest individual manufacturer in New England, and has an enormous new mill running equal to fifty sets of cards. Has he not a little overdone it? Don't he need more customers and less South American wool? A ten set mill is considered a large one, and is large enough for any prudent man. What troubles the large concerns are the small mills. If they can be crushed, the large ones will have a good time. Take the tariff off from wool, the farmers will kill their sheep, and the small mills break. The large mill owners will in that case become the lords, and the people will become the serfs."

COMPLIMENTARY.

Although we are much encouraged by the many good words that are spoken of the FARMER, by our correspondents and contemporaries we do not often think best to make our own columns the medium of their complimentary notices. We must, however, be excused for manifesting our appreciation of the source of the following, by waiving our general rule on this point.

THE NEW ENGLAND FARMER.—There are three things which New England men in middle life, who have migrated from the country to the city, remember, as particularly associated with the old farm homestead,—*Scott's Commentary*, *Robert B. Thomas's Almanac*, and the *New England Farmer*. This sterling agricultural paper is one of the institutions of New England, and its visits to the firesides of thousands would be missed as much, almost, as those of brothers, sisters, or cousins. The genial, pleasant, instructive essays of the farmer-editor, whose cottage upon the banks of Concord River is the home of so much refinement, social happiness, and generous hospitality, lend a charm to its columns which is found in but few publications. The *Farmer* often speaks words of kindness and encouragement, but never those of bitterness or envy. The agricultural interests of New England and the country, in their present advanced condition, are greatly indebted to the *Farmer*, and long may it continue to exert its healthful and elevating influence.—*Journal of Chemistry*.

—The Iowa Agricultural College will open for students next fall.

"THE OLD FARM."

BY FRANK M. BAKER.

I've been, dear George, to "our old place,"
Where you and I were born,
But meeting no familiar face,
It made me feel forlorn.

Where father tilled, now strangers till,—
Our father's house is not;
A stranger's home stands on the hill
Where stood our humble cot.

The old red barn is torn away—
A new one stands there now—
What fun we've had in that old bay!
What frolics in the mow!

The old well-sweep has disappeared,
Instead there is a pump;
The farm how changed! The land we cleared,
Is now without a stump.

And those "back acres" where we mowed,
(*Back-achers* true they were,)
A boy upon a mower rode
And cut, while was I there.

The rattling reaper rapid run
The waving grain among,
Where erst beneath the broiling sun
Our cradles oft we swung.

Those reapers, George, have truly hung
Our cradles "in the shade;"
The only *cradle* now-days swung
Is where the baby's laid.

Our mother's grave, dear George, I sought,
There wept—I know not why;
I felt the changes years have wrought
On all—on you and I.

For the New England Farmer.

YOUNG ORCHARDS.

We recommend, in setting out a young orchard, to plant the land previously to corn or potatoes, ploughing very deep. After the crop is off the land is ready to receive the trees. Set them from thirty to forty feet apart, (thirty-five feet is a good distance,) and do not hurry to put in the trees, but set them carefully, reserving all the top soil to go around the small roots; and it will pay to pour a pail or two of water on the roots of each tree, when the holes are about two-thirds filled. As soon as the roots are covered with the top soil, work the trunk of the tree to and fro, to settle the earth around the fibres of the roots, then tread down firmly with your feet, apply the water, fill up, and the work is done. If the soil is quite damp, no water will be necessary; but as a man will bring, in an hour, from the house-well, by hand, all the water that would be required for twenty-five or thirty trees, it is decidedly, in my opinion, good policy to use it in most cases. No person should ever allow a hired man to set out his trees. He should take his man or boy and do it himself, with their assistance. Nor should the holes be dug long before the trees are set. If you have many trees to set, first stake the ground and then set a man or men to digging the holes, while you, with a boy, set the trees,

which should be set into the ground two or three inches deeper than they grew in the nursery row, and after the soil becomes well settled around them, they will not be too deep. It is important to set a stake by the side of each tree, on the side the prevailing winds come from, to which the tree should be attached with something that will not chafe the bark. No man should trust to his hired help to remove his young trees from the nursery, unless he has different help from what is usually found on a farm. The life of a tree is in its roots, and care should be taken to preserve as many (especially the smaller roots,) as possible, and all that are cut with the spade should be cut off smoothly with a knife, in an oblique direction, in order to allow them to grow on and become perfect roots. If you are not ready to set the trees, as soon as taken from the nursery, take them to a shaded place and "heel them in," throwing the earth well up over portions of their trunks and branches, if not too large, to prevent too great an evaporation of the sap. The top of the tree should be trimmed to correspond with its extent of roots. Begin with the lower branches, and end by shortening in such of the top branches as may be necessary. O. T.

Lakeville, Mass., Feb., 1868.

CHEESE FROM THE MILK OF SHEEP.—The January number of the Report of the Department of Agriculture, furnishes a curious statement in explanation of the art and mystery of "Roquefort cheese." It appears that in the neighborhood of Roquefort, France, 8,000,000 pounds of cheese are made each year from about 400,000 sheep of a native breed, which are all that can be kept there. The factory is called a cave, and is niched high up in the rocky table land. The sheep are milked twice a day. The milk stands a short time, is then warmed and partly skimmed for butter, made into cheese, sprinkled with wheat flour, inoculated with a bit of old cheese, and carefully deposited in the "cave." Either from some peculiarity of feed or influence of the scent of the cave, this cheese is inimitable, and other sections near by have failed in all their attempts to produce the genuine Roquefort cheese.

KANSAS COLLEGE GROUNDS.

In June, 1865, says the *Kansas Farmer*, Prof. Kelsey took charge of these grounds, and forty acres were broken up. In 1866 he planted nine bushels of osage orange seed, 8000 apple grafts, one bushel apple seed, one peck elm, three bushels maple seed, and about 40,000 little evergreens. In 1867, eight bushels osage orange seed, five bushels peach seed, 18,000 apple grafts, and a quantity of sycamore, ash, and honey locust seed, and twenty-five acres of black walnut, oak, hickory, maple, osage orange, cotton wood, white pine, cedar, larch, arbor vitæ, &c. About $1200 worth of trees and plants were sold last spring, and probably $2000 worth will be sold this spring. Already 250 acres are inclosed, and preparations for fencing 640 acres are nearly completed. Additional orchards, forests, hedge seed, peach and apple grafts and seeds, and several miles of hedge fence are to be put out this spring. The trees have nearly all succeeded well, and the forests are in cultivated ground and kept free of weeds. They have cost $7 to $10 per acre, and are planted in rows twelve feet apart, the trees in the row one to two feet apart, and cultivated between the rows.

PERRY'S IMPROVED MOWER.

This machine, represented in our advertising pages, was invented by Mr. John G. Perry, of Kingston, R. I. It has two driving wheels, the frame is made of wood, and it is claimed that every part is made of the best material and in the best manner; that it will run slow or quick, and do the work well; that the machinery is simple and compact; that it avoids the noise common to other machines; that it is well adapted to uneven surfaces; and that it will mow around corners without stopping or backing the team to start anew. Since its invention it has been awarded the following premiums:—

Medals.—Rhode Island Society, 1866; World's Fair, Paris, 1867; Worcester County Association, 1866.

Highest Prizes.—N. E. and Vermont Societies, 1866; N. E. and Rhode Island Societies, 1867; also at Bristol Co., Middlesex Co., Eastern Hampden, and other Agricultural Fairs.

NORFOLK AGRICULTURAL SOCIETY.—At a largely attended meeting of the society, March 25, the following gentlemen were elected officers for the year:—

President—Hon. Marshall P. Wilder, Dorchester.

Vice Presidents—Hon. Amos A. Lawrence, Brookline; Hon. Otis Cary, Foxboro'; John Gardner, Dedham; Stephen W. Richardson, Franklin; Elijah Tucker, Milton; Henry Grew, Dorchester.

Corresponding and Recording Secretary—Henry O. Hildreth, Dedham.

Treasurer—C. C. Churchill, Dedham.

SOW AND PLANT GOOD SEEDS.

ONE of the vexatious experiences of the farmer is in the use of seeds which he supposed were good, but which never come up. This is not only vexatious, but in some cases involves a heavy bill of cost, as in the case of seeding land to grass. After all the labor of harrowing, leveling, sowing the seed, working it under and rolling, the work is to be gone through with a second time, and a new cost incurred for more seed. In addition to this, the prime season for the germination of seeds, and early growth of the plants, has passed away, so that the crop is sickly and lean through the entire season. The whole crop, indeed, may be affected through two or or three seasons from the want of a heavy and vigorous start.

Thus the want of success in this operation, and the necessity of going over it again, occupies the time of men and teams that ought to have been devoted to other crops,—so that unless extra labor is brought in, the business of the farm is deranged throughout the season. In such cases, hurry and discomfort are introduced, where thrift and order usually prevail; these penetrate the inmost recesses of the family, and give it a tone of disquiet which is all unlike its common character. All this may spring from a want of *good seed.* The old adage is proved in the result: "For want of a nail the shoe was lost; for want of a shoe the horse was lost; for want of a horse the *rider* was lost!" "Behold! how great a matter a little fire kindleth." So it runs through all the business of life. One little act of treachery involves the city in ruins, and the loss of many lives. One little piece of rascality in selling seeds that are known to be bad, results not only in the loss of crops to a great extent, but to unhappiness,—perhaps ruin,—in many upright and worthy families.

There should be inspectors of seeds, as well as inspectors of flour and steamboat boilers, —and any infraction of law in relation to seeds should by punished promptly and severely.

Line upon line, and precept upon precept, has been given to farmers upon the importance of using good seeds, but the losses continue as great as ever. The surest way to secure those that are good, is for the farmer to raise them himself. It is much more easy to do so than most farmers think it is. For garden purposes, two or three beets, parsnips, carrots, onions, turnips, &c., &c., are all that are necessary to secure an abundance of good seed.

For field use, increase the number, but tend with equal care. Even grass seeds may be saved with little extra labor, when once the farmer becomes acquainted with the best manner of taking care of the crop and of harvesting the seed.

Machines are common now for the latter work, which accomplish it rapidly and perfectly—and a single machine would accommodate a whole neighborhood. The cost of grass seeds to our farmers may seem small in single instances, but in the aggregate it swells to an imposing sum.

There were 35,601 farms in the State of Massachusetts in 1860. The average cost of grass seed cannot be less than six dollars to each farm,—it would probably be double that sum,—but that amount would make a total of $213,606 annually! A very large portion of this seed is produced beyond the limits of New England.

The whole number of farms in the New England States in 1860, was 183,942. At six dollars for each farm, the total would be $1,103,652 annually, for grass seed! It is believed that nine-tenths of this seed may be produced by the farmers themselves, and at a very trifling cost. Look at the immense labor, and the untold exchanges which the products of the farmer must pass through, in order to raise the money and pay it out for this grass seed.

As a general rule, the farmer handles little money, compared with many other classes. It should therefore be his object to produce, within his own labors, everything that can be economically produced, so as to devote his money to the payment of taxes, purchase of machinery, clothing, furniture, and such other articles for consumption or use as he cannot produce from his soil or manufacture for him-

self. We can save a million, annually, in New England, by raising our own grass seeds.

With a bit of advice to farmers from the old Roman writer, *Columella*, and a few lines from one of *Virgil's* Georgics, we will close this article. The first named says:—"I have this further direction to give you, that, when the corns are cut down, and brought into the threshing floor, we should even then think of making provision of seed for the future seed time, for this is what Celsus says:—'When the corn and crop are but small, we must pick out the *best* ears and of them lay up our seed separately by itself.'" Virgil says:—

"I've seen the largest seeds, though viewed with care,
Degenerate, unless the industrious hand
Did yearly cull the *largest*. Thus all things
By fatal doom grow worse, and by degrees
Decay, forced back into their primevous state."

For the New England Farmer.

"DIFFERENCE IN SEED POTATOES."

Mr. Knapp gives his experience, and here is ours:—In the spring of 1866 I received by mail from Thomas Edge, Esq., of Londongrove, Pa., among other seeds, one of Goodrich's Cusco potatoes and one Mercer. I also obtained two each of the Goodrich Early, Garnet, Chili, and Calico. I had previously Jersey Peach Blows, Prince Alberts, Mountain Junes, Davis Seedling, Irish Apple, and California or Jenny Lind, and several other varieties.

The Cusco, having clusters of eyes, was divided into twenty-eight pieces, some of them not larger than a filbert, each containing one eye which made twenty-eight hills. The other new varieties having less eyes made fourteen hills each, containing one and two eyes. The old varieties were with two or more eyes on each piece. By stepping the left foot in each hill and dropping one piece each side of it, the distance between the pieces is regulated to six or eight inches. The rows were three feet apart and the hills about thirty inches. The soil was a light sandy loam, on which the clover was winter killed. We made holes two or three inches deep, and covered the potatoes first with manure then with dirt. They received the same culture and treatment, and although the season was unfavorable, we harvested as follows:—

2 potatoes,	Cusco, ...	28	hills . . .	2	bushels.
" "	Early Goodrich .	14	" . . .	1½	"
" "	Garnet Chili . . .	"	" . . .	1½	"
" "	Mercer	"	" . . .	¾	"
" "	Goodrich's Calico	"	" . . .	¾	"
Usual amount of seed,					
Jersey Peach Blows		"	" . . .	¾	"
Davis Seedling		"	" . . .	1	"
Prince Albert		"	" . . .	¾	"
Mountain June		"	" . . .	¾	"
Irish Apple		"	" . . .	¾	"
California		"	" . . .	1¼	"

The last season was still more unfavorable in northern Vermont, but notwithstanding the almost unprecedented drought, I raised over eighty bushels of the Cusco, sixty-five of the Early Goodrich, and forty of the Garnet Chili, and planted only about three-fourths of the Garnets. None of them rotted except the Mercers, which I discarded the first season.

I have formerly been troubled with the rot in my bins, especially near the top of the centre where they were piled high. I therefore raised the floor so that the dirt can be cleaned out easily, and slit the bottom planks to about six inches, wide, and left spaces three-fourths of an inch wide between them, and now the potatoes, though deep, keep as sound as when put in.

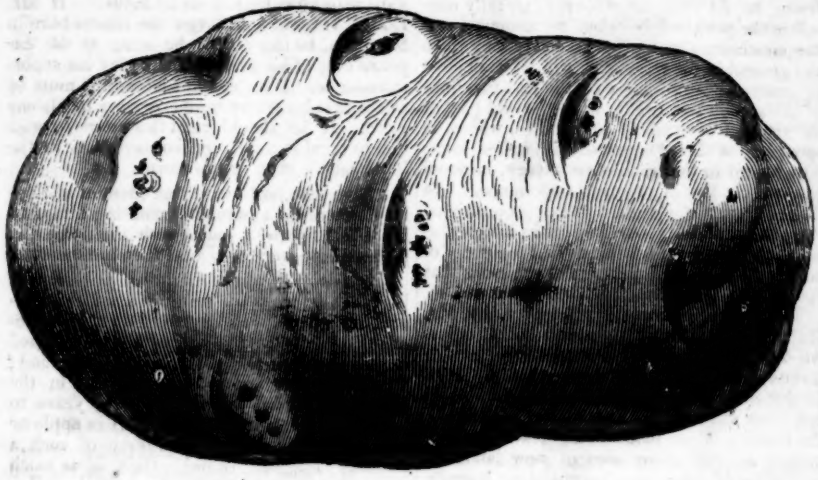
We should like to hear from other farmers, that each may profit by the others' experience.

O. C. WAIT.

West Georgia, Vt., Feb., 1868.

AN EXCELLENT FERTILIZER.

One of the very best artificial fertilizers used upon our farm, for all the cereal grains and root crops, we have prepared in the following manner: Take one barrel of pure, finely-ground bone, and mix with it a barrel of good wood ashes; during the mixing, add gradually about three pailfuls of water. The heap may be made upon the floor of an outbuilding, or upon the barn floor; and, by the use of a hoe, the bone and ashes must be thoroughly blended together. The water added is just sufficient to liberate the caustic alkalies, potash and soda, and these re-act upon the gelatine of the bone, dissolving the little atoms, forming a kind of soap, and fitting it for plant aliment. In this way, the most valuable constituents of bones can be made immediately available, and the addition of potash and soda aids in the formation of a fertilizer of inestimable value. The water added is not sufficient to make a mass, difficult to dry, but is enough to liberate the strong alkalies from the ashes. This preparation is so cleanly, convenient, and useful, every farmer should prepare as much as possible for his crops during the coming season. A gill placed in a hill of corn will work wonders. It is excellent for garden vegetables, and for all kinds of roots. It must be used in small quantities, or in about the same way as the so-called superphosphates. A barrel of this mixture is worth two of any of the commercial fertilizers, and the cost will be but about half as much. It remains to be added, if the bone meal and ashes are very dry, four pailfuls of water may be required; but care must be exercised not to have it inconveniently moist. It will be ready for use in a week after it is made. *Pure, raw, finely-ground bone* and the best of ashes should be employed. We think the *Journal* readers will thank us for calling their attention to this excellent fertilizer.—*Journal of Chemistry.*



EARLY ROSE POTATO.

It is claimed that this variety was originated from a seedling of the "Garnet Chili," by Mr. Albert Breeze, of Vermont, who, after being satisfied as to its superior quality, sold his stock to D. S. Heffron, of Utica, the disseminator of the "Early Goodrich." After testing it two years, Mr. H. sold most of his stock to two gentlemen in New Jersey, and gave the following description of the potato:—"Skin thin, tough, of a dark bluish color; flesh white, solid and brittle; boils through quickly, and is very mealy." He also says, "It has uniformly ripened ten days earlier than the Early Goodrich, produces less small tubers, is equally healthy and productive, as that justly celebrated variety, and its superior in table quality. It is the best early potato that I have ever grown or seen, all things considered."

Dr. John P. Gray, (superintendent of the New York State Lunatic Asylum) who raised a small quantity for Mr. Heffron, speaks of it in the highest terms, and fully endorses all that is claimed for it.

If future cultivation shall prove that the "Early Rose Potato" is earlier than the "Early Goodrich," and is in other respects worthy of all the praise which has been awarded it, it must be a great acquisition, especially in view of the miserable specimens of this indispensable vegetable which we have had upon our tables the present season.

For the New England Farmer.

MINERAL MANURES.

In your paper of March 21st, under the heading "Manures—Organic and Inorganic," I am invited to consult two gentlemen of Milford, Mass. respecting their success in applying *mineral fertilizers* to their land, according to the theory of Mr. Dodge Hayward. I shall endeavor to obtain the information, and hope that others who have adhered strictly to the teachings of that gentleman will forward for publication the results of their experiments.

I offer some thoughts suggested by the article referred to.

In our experiments with minerals, it should be borne in mind that our want of knowledge is not so much in regard to what organic or inorganic elements our plants and fruits are composed of, as in what proportions, and by what methods and expense of time and money they can be returned to the exhausted soil, and be made to operate there as when supplied by the action of the forces of nature.

Chemists profess to be able to tell me precisely the quantity of minerals any portion of my land may contain, but they cannot tell me before hand what amount of minerals to use, how to use them, and at what expense this can be done, with the certainty of raising profitable crops, and continuing the land in a

fertile state. Mr. Dodge Hayward, who I do not understand to be a practical chemist, professes to do this, but whoever carefully considers the positions he takes, or assumes, and the conclusions he arrives at, by making them the ground of his reasoning, will be compelled to admit the truthfulness of the first two lines of the second paragraph, in the second part of the article I have above referred to, where, in speaking of Mr. Hayward. the writer says: "In regard to the truth of his theory, its proof rests on the test of practical experience." In his lectures, Mr. Hayward makes propositions, then talks about them and draws his conclusions apparently in ignorance that the proof of any position depends not on the positions that *follow*, but always on those which *precede*.

The mode of reasoning adopted by Mr. Hayward, leads him to conclude that unless we depend on minerals to restore our lands to a state or capacity called productive, we shall be driven to give up farming as unprofitable; but time will discover to all the real causes of the fertility of our lands being less than formerly, are the abundance of new land, the high price of labor, and comparative scarcity of money in the hands of small farmers.

What made the barren sands of Belgium the most fertile farms and gardens on the continent of Europe, but the poverty to which the people were reduced by the destruction of their former means of support? This they accomplished by the use of green manures and rotation of crops. Two hundred years ago men travelled fifty miles on the road in England without seeing a single fence; on both sides were heath and swamp, where now are seen such farms as would astonish the intelligent farmer of New England. The change there was brought about by the use of the same means as in Belgium. In the latter place, by the poor farmers with the spade; in England, by the lords of the land employing the spade and the plough; but in both cases the system of manuring was the same. As land in the hands of intelligent cultivators here becomes scarce, and they have money to enable them to wait the necessary time for remuneration, the same system of cultivation will be adopted by them as is followed in England, so far as climate will allow. For the present, our best plan seems to be to select our best fields, sell from them as little of what they produce as possible, and extend our farms only as fast as we have abundance of barn-yard manure, and time and money to afford to bring up our poor lands by plowing in green crops, and by reclaiming our meadows.

To the remarks of the writer of the article referred to, on what he calls the "preaching of the *all-importance of ammonia*," I will leave the "leading agriculturists who preach them" to reply. I believe in the judicious use of both barn-yard manure and minerals. I believe, also, that if we had no minerals to use as manure, we could then farm with profit. What I do not believe, is what Mr. Hayward contends for,—"that ninety per cent. of barn-yard manure is useless on all lands." If Mr. Dodge Hayward will test the matter here in Sherborn, he can do so; he being at the expense only of his presence here, and his superintendence. If he should succeed, he must be aware that his secret would bring a handsome price. If he should read this article, I wish him to recal to mind our conversation in the blacksmith's shop in this town.

I have seen farms in eleven counties of England, where the system of manuring I suggest has been followed, and I wish the farms and farmers here were as rich as they are there.

Our friend speaks of insects in peas, and of borers in trees, as the result of a want of mineral in the land. In England I do not remember having seen any insects in peas exposed for sale in windows and stores the year round; nor do I remember, in my residence in the valley of the Severn for twenty-three years, to have heard a word about borers in apple or pear trees. I cannot see the force of such a remark. England is old,—there is as much scarcity of mineral in her orchards in the valley of the Severn, and in her pea fields, as there is here.

Mr. E. W. Bull is quoted. He uses mineral in his vineyard. True, but the vineyard is on a low and frosty piece of land on which nothing but his great experience, intelligence, and constant care enables him to succeed. On such land there is abundant moisture, and mineral is all that is wanted there for Concord grapes. Leave this vineyard and go to his land on higher level, and there, with the same culture under which the Concord grape is luxriant, the Iona, Isabella, Adirondac and others scarcely live. Give these some barn-yard manure, regulating the amount by the requirements of each variety, and they will be as thrifty as the Concord, on which nothing but mineral is used. I have about twenty varieties of grape vines, and all and each require different treatment or different soil, and some of them require both. I would not risk any of them except Concord, Hartford and Rogers on poor soil, unless they could have a large amount of oxygen and hydrogen—water.—supplied in some form other than is recommended by Mr. Dodge Hayward. And when our farmers notice how the little roots of plants fix themselves in the lumps of barn-yard manure in dry weather, they will probably believe the same in regard to other plants.

JOHN FLEMING.

Sherborn, March 23, 1868.

—Apples and other fruits and vegetables have long been dried and are common in every market, and a gentleman in Baltimore has invented an apparatus for slicing and drying the sweet potato of the South, and is confident of success.

The Old Way.

The New Way.

BAG HOLDER AND TUNNEL COMBINED.

INVENTED AND PATENTED BY E. C. FAIRCHILD, SUNDERLAND, MASS.

Steady, friend "Old Way," or you will spill the "precious grain," although the more difficult task, that of picking the bag from the floor with the full half-bushel in your hands has been accomplished. Who, that has ever put much grain into bags, does not sympathize with you? And who does not congratulate "New Way" on his erect position and the ample tunnel, which, though not well represented in the cut, is three inches wider than the largest diameter of the half-bushel. See, too, how nicely the bag is held by four little sharp steel hooks on the outside of the tunnel; how the tunnel can be raised or lowered to suit bags of different length, by means of an iron plate with three or more "lugs," on the standard; and how the whole can be placed on platform scales for weighing, &c. This plate and lugs may also be attached to any upright in the granary, or to a wagon for field use.

SOILS FOR PEAR TREES.—Mr. L. C. Kingsley, of North Auburn, Me., inquires about soils best suited to pear trees, and whether standards growing one rod apart may have dwarfs planted between them. He states that he digs the hole for his trees three feet deep, and inquires whether these should be filled with compost. We reply: The soil in which pears generally thrive best, is a well drained clay loam; but many kinds will thrive in a sandy soil, if well cared for. Dwarfs may be set between trees one rod apart, if the soil and culture are good, but we should prefer to set standards twelve feet apart, with nothing between them. We think a depth of three feet is unnecessary, and involves too much labor. Half that depth is generally sufficient. Two thirds of this depth may be filled with compost, if it is well rotted. Raw manure should not be put in contact with the roots of a pear or apple tree. Turfs and sods do well to fill up the hole with. They soon become a good mould.

We prefer the spring for setting trees, and they should be set as soon after being taken up as possible. Trees transported long distances are very uncertain.

EXPERIMENTS WITH MANURES.

FINDING the space usually allowed to our correspondents hardly sufficient at present for the publication of all their articles which seem to demand an immediate notice, we propose to place upon the editorial platform the following interesting account of some experiments made last season by our friend "W.," of Blackstone, Mass., in the home manufacture of several special fertilizers, and of their effect in comparison with that of stable manure.

Superphosphate of Lime.

Last spring he obtained about 600 pounds of bone, costing, at 1¼c per pound, $7.50. The breaking up of these bones cost $6. He then purchased 174 pounds of oil of vitriol, at an expense of $6.24, including freight. Making the whole cost of these material $19.74. A molasses hogshead was then sawed in halves, and an equal quantity of the bones put into each. After wetting the bones with about two pailsful of water to each cask, half of the vitriol was poured upon one lot, and half upon the other, all at once. The bones, however, were not as completely dissolved as could be wished, and Mr. W. proposes in his experiments this season, to put in a part of the vitriol at first, and after effervescence, to add the remainder. This mass of bones and vitriol was reduced so that there was as much as one horse could draw, but Mr. W. thinks it would have been better if he had made two loads of it, instead of one.

Muck and Mineral Composition.

Adopting the suggestions made by James R. Nichols, M. D., in a lecture delivered before the Massachusetts Board of Agriculture, and published in the *Agriculture of Massachusetts*, for 1866–7, pp. 232–4, Mr. W. made a compound of muck, crude nitrate of soda, Epsom salts, bone meal, salt, plaster, and wood ashes. In his formula, Dr. Nichols assumed that a cord of barn manure weighs 3000 pounds. Of this amount, 2456 pounds are water, 138 pounds sand, and 332 pounds carbonaceous matter, no more valuable than muck, peat, straw or chaff; leaving only 74 pounds "which really is all that is valuable."

"In this 74 pounds," says Dr. Nichols, "there is the nitrogen, potash, soda, lime, magnesia, phosphoric acid, sulphuric acid, chlorine, iron and alum. In estimating the market value of these substances, we may obtain the nitrogen by the use of crude nitrate of soda, or sulphate of ammonia, at a cost of $2.60, the potash, soda, &c., in one and one-half bushels of good wood ashes, at 35 cents, and fifteen pounds of common salt, ten pounds of bone-dust, three pounds of gypsum will supply the remaining constituents, at a cost of fifty cents. If we estimate the carbonaceous matter at ten cents, we have, as the actual cash value of all that promotes plant-growth in 3000 pounds of barn-yard manure, the sum of $3.35. There are but few localities where the farmer can purchase manure at less than $7.00 the cord; and when to this we add the expense of hauling and applying to fields, we find there is a wide margin between the cost of the isolated valuable constituents of manure, and the article as furnished in its natural condition. Barn-yard manure may be imitated by thoroughly composting with a cord of seasoned meadow muck sixty-five pounds of crude nitrate of soda, two bushels of wood ashes, one peck of common salt, ten pounds of fine bone meal, two quarts of plaster and ten pounds of epsom salts. The cost of this compost will not be over $3.50 the cord, and ought, other things being equal, to serve as good purpose in the field. In practical trials of this mixture I have found that while it serves a most admirable end, giving very satisfactory results, it does not act so rapidly and energetically as manure; but its effects are more lasting. In short, the same salts and organic matter as found in the dung-heap, have a higher money value, and seem to exert a more specific influence upon plants than when presented in artificial mixtures. By substituting nitrate of potassa, or saltpetre, for soda, the compost is greatly improved, while its cost is enhanced. If the salts are dissolved in water,—those that are soluble,—and the bone is ley, and good muck is employed, a compost is formed very nearly as valuable as seasoned excrement. Very nearly, we have said—why is it not of equal value?

We have reason to believe it is owing to a minuteness of the subdivision of atoms, which we can neither produce nor comprehend,—a degree of comminution which sets at defiance all mechanical and chemical manipulation. Besides this, there is, however, a peculiar condition arising from, or communicated by, the contact of vital forces, which science is incapable of explaining. A physician once brought to me a jar of ox's blood, with the request that I would extract or isolate the metal iron therefrom, and place it in his hands. In answer to inquiries as regards its uses, he stated he wished to employ it as a thereapeutic agent under the impression that iron once assimulated would have a higher and more natural influence when passed again through the animal economy, than the usual forms of the metal from other sources. His hypothesis was undoubtedly correct, and while it was quite within the power of chemistry to isolate the iron from the blood, it was impossible to secure it in the *condition* in which it existed in that fluid. That condition is indeed a peculiar one, and its presence is not indicated by any of the usual chemical re-agents. If we applied to it simply the usual manipulating processes, chemistry would fail to show that there was an atom of iron present in the blood of men or animals. This may illustrate the difference between the fertilizing influence of metals and salts, as found in animal excrement and as existing in other, or the usual forms. The iron as found in the blood, if administered to an enemic patient, would without doubt immediately, and by direct and easy processes, again pass to its appropriate place, and restore the sanguineous fluid promptly to its normal condition.

But chemistry can never furnish it in that form, neither can it supply the mineral constituents re-

quired by plants, precisely as found in manures; but this must not lead us to disparage science and reject its teachings.

On these suggestions Mr. W. constructed his "composition" or mineral manure.

Sulphate of Soda and Sulphate of Magnesia.

This compound was made from a recipe in the *Farm and Fireside*, and was recommended particularly for potatoes, but no description of how it was made is given. Mr. W. simply says, "I tried it, but it did not do anything."

Poudrette and Gas Lime.

How these materials were prepared or how applied we have no information further than what appears from the following table, which gives the comparative appearance at three different observations, of two rows of corn which were planted for the purpose of testing the five different kinds of manure mentioned.

Result of the Different Manures

	July 11.	Aug. 2.	Sept. 1.
Poudrette	No. 1	No. 4	No. 4
Stable Manure	" 2	" 5	" 2
Home-made Phosphate	" 3	" 1	" 1
Muck and "Minerals"	" 4	" 6	" 3
Sulphate of Soda and Magnesia	" 5	" 2	" 5
Gas Lime	" 6	" 3	" 6

General Remarks.

In applying the home-made superphosphate to corn in the field, the same amount was used as is commonly used of Bradley's Superphosphate of Lime, and Mr. W. adds that in some cases too much was applied. Its effects were very satisfactory, although the amount of the crop is not stated. Some of the stalks, however, were as tall as a rake handle, and one and a half inches in diameter. Some of the corn cobs were double at the top, showing a luxuriant growth. In husking eight bushels, one evening, eight such double ears were found, all but two of which were well filled out. In one case, six distinct ears were found in one set of husks,—the longest being twelve and the shortest three inches in length.

Of the mineral compost, our correspondent says, "I don't think much of it. It did not do well."

Three-fourths of an acre of land were turned over last season as soon after haying as convenient, on which six cords of good stable manure were spread with some superphosphate from another batch made of 400 pounds of bones and 164 pounds of oil of vitriol. This land was harrowed, bushed, seeded, and bushed again. Before the frost came the grass was more than six inches high, and neighboring farmers remarked that they never saw such a sight before. On about half of this lot turnip seed was sown about the middle of September, from which 140 bushels of clean turnips were harvested, leaving the tops on the ground as a mulch or dressing.

The second lot of superphosphate cost $14.97, which added to $19.74, the cost of the first lot, make $34.71. An equal quantity bought in market by the barrel would have cost $60. Mr. W. says he would give more for bones thus treated than he would for good stable manure, though he admits that some do not think so. He also raised oats the past season on land to which horse manure was applied. Some of the stalks were over five feet and six inches high and nearly as large as one's little finger.

We hope our correspondent, who says that he believes he cannot get too much manure upon his land, will continue his experiments and communicate the results, whether favorable or unfavorable, for the benefit of other farmers who are anxious to avail themselves of every profitable fertilizer. Although his experiment in the use of the "philosophical" cord of manure was such as to lead him to remark that he "did not think much of it," still as it stood No. 3, on the first of September, we wish he had given a fuller account of its cost, and of the manner in which it was composted.

IMPROVEMENT OF TURF GAMBLING.

Now that the racing season is rapidly approaching, we trust that our turfmen will make an effort to open a subscription room in New York where bets may be registered, to be conducted after the style of Tattersall's in London. The enterprise could be made to pay with an energetic man at the head of the movement. With a club room conducted on the Tattersall plan, the business transactions of the turf, in a measure, would be systemized. It would help to do away with the poolseller's vulgarity, as with the books open for the registration of bets, the next step would be to book-making on the race course. Speculations on the turf should be conducted in a more quiet and gentlemanly manner than they are. *The noisy wrangle of a cracked-voiced auctioneer is far from pleasant, to say the least of it.* Since the pool stand has been made the medium for the practice of bare-faced robbery by an itinerant scoundrel, it should be removed from the race course. Some of our leading turfmen are moving in this matter, and we trust that they will persevere until they succeed in establishing a club house in New York on the Tattersall plan.—*Turf, Field and Farm.*

The writer of the foregoing paragraph must have been present, we think, at the

exhibition of one of the Massachusetts county Agricultural Societies that we attended last fall. The sentence we have put in italics describes a part of that "show," and its effects on our nerves most perfectly. While sauntering about the grounds on the afternoon of the last day, our attention was attracted by a crowd of people at some distance, and by a more distressed screeching than is often heard. Whether it was the last wail of some rinderpest-smitten, "cracked-voiced" bull, or the vigorous protest of a captured greased pig, we could not tell. On approaching the ring we felt relieved by the discovery that all those fearful sounds proceeded from one man, and he alive and well! though we did not then know whether he was an "itinerant scoundrel" or a gentleman. He was exclaiming at the top and bottom of a sadly "cracked-voice,"—"Thir-tee d-o-o-l-ars in the p-w-o-u-l, thir-tee d-o-o-l-ars in the p-w-o-u-l!" &c., &c.

If turfmen themselves are disgusted by the poolseller's "vulgarity" and "bare-faced robbery;" if they find it necessary to say that "*speculations*" [gambling,] "on the turf should be conducted in a *more quiet* and gentlemanly manner than they are," what shall be said in relation to these "exhibitions" on the grounds of our agricultural fairs?

For the New England Farmer.

MANURES---ORGANIC AND INORGANIC.

In as few words as possible I wish to state a few ideas in regard to manures; not for the purpose of teaching others, so much as to call forth an expression of opinion from those so much better fitted to speak on this most important of all subjects to the farmer, than I am.

We divide the elements of which all matter is composed into two classes, organic and inorganic. The organic elements (carbon, oxygen, hydrogen and nitrogen,) are such as compose, or assimilate with the atmosphere. Oxygen and hydrogen are the elements of which water is composed, and are so restored by nature as to require no consideration as manures. Carbon in the form of carbonic acid—carbon and oxygen—is taken into the roots to the amount of about one-third the quantity necessary to the plant. The other two-thirds are absorbed through the leaves of the plant. The constant decomposition of organic material by decay, combustion, &c., continually furnishes it to the atmosphere, while the rains restore to the soil all which the plant can ever require. The only benefits in the application of carbonaceous matter to soils are said to be its absorptive and retentive power of nitrogen, and its power of dissolving inorganic compounds. In this manner scientific authorities bring us down to the simple point, in regard to organic matters, that the only element whose artificial application or retention is necessary for plant food is *nitrogen*. Nitrogen combined with hydrogen forms ammonia.

Could a perfect plant food be continually applied in sufficient quantities, and at a sufficiently small cost, there would seem to be no particular necessity in the application of solvents. Some of the alkalies, however, are not only indispensable for plant food, but act a double purpose in the dissolution of inorganic substances. With no important exception, all the elements contained in different animal or vegetable organizations are the same—the difference being in respect to their proportions and other peculiarities of construction and life. If space were not too valuable, and the access of all so easy, I would give the names of the inorganic elements. Suffice it to say, the following are all the elements whose artificia lapplication to soils is ever required, the others being inexhaustible in all soils. I take, first, Professor Ville, of France, for authority, whose receipt for a perfect plant food is composed of phosphoric acid, lime and potassa. Dr. Nichols adds, for New England soils, magnesia. (See Sec'y Flint's 14th Annual Report, page 248.) Where some of these elements are plenty and in a proper condition, their artificial application is unnecessary, until they become exhausted somewhat. Meanwhile the application of an imperfect mineral manure, tends to make the soil barren by exhausting the properties not contained in the manure, from the soil. This is what farmers call "drawing land." Where these properties are not restored by the wash of streams, or from mountains, or by some such unusual means, their artificial application is indispensable; and no amount of ammonia, which many farmers seem to consider the main thing required, will prevent their exhaustion. Of course they can never evaporate, or be returned by rains or snows.

Many leading agriculturists preach this *all-importance-of-ammonia*, without seeming to consider that a certain amount is returned to the soil by nature, from the atmosphere, while these equally important minerals are not so returned.

Now the principal points on which I wish to be enlightened, are these: to what extent is ammonia of value to soils? Does nature restore it to soils in sufficient quantities for the production of plant food? If its artificial application increases the quantity of crops in any case, does not it proportionately diminish their quality, by giving them an undue proportion of organic matter, compared with the inorganic? It is the lack of phosphates and

other bone-making materials in our grass, which is supposed to produce those diseases manifested by cattle, in gnawing bones and other hard substances. The working of bugs in peas, so common here, is not usual in new countries with unexhausted soils. Mr. E. W. Bull uses only plaster, bones, ashes and other mineral manures for his grape vines. Animal manures give them a too rapid growth, which is "loose," "spongy," "unripe," and subjects them to the liability of various diseases and winter killing. (See 12th Annual Report of Sec'y Flint—1864, pages 64-70.) Is not this same loose, spongy, unripe, *unhealthy* growth of our fruit trees, this lack of solidity, just the preparation required for the working of the borer? I advance no opinion! I simply inquire after the truth. There are other illustrations which I would give, but for the sake of brevity. Certainly no lack of organic food can ever conduce to these results.

There are no organic elements which are not being continually conveyed through animal and vegetable organizations—through the atmosphere, the waters, the soils—always on their ceaseless rounds. Now does Nature, in her workings, give any evidence toward the solution of this problem? I mean in relation to the use of nitrogen. How is it in her continued production of vegetation without local exhaustion of plant food, where no artificial application of this element is made?

Take the prairies for example. They have been known to Europeans for more than two and a quarter centuries. Huge crops of vegetation have grown, and by the processes of decay or combustion have been decomposed; the principal part of their organic matter having been thrown off to the atmosphere, the *ashes* remaining. Thus you see those immense crops have been maintained while in a state of nature, and the soil still kept in an inexhaustible state of fertility, by the simple application of their ashes. And we all know how small this application must be. We all know how burning or decay will reduce a heap of hay, vines, brush or other animal or vegetable substance; and thus we see how small a portion is mineral and how large organic. And here is no artificial application of nitrogen! What it obtains is all from the great storehouse of nature. But how is it with mineral properties? When these soils are cultivated and the crops removed, then their exhaustibility becomes apparent. Their inorganic fertilizing properties are then carried off, while their organic properties are removed just as much, and no more, than when in a state of nature.

But where does the adoption of a theory which makes the artificial application of organic substances unnecessary lead us? *I have not adopted it, remember;* but I ask the question. Burning only disunites the elements composing any substance, leaving the ashes; while the organic properties pass away; therefore, burn up your manure heap, and you still have its full value remaining, only in a concentrated mass. There is where it leads us. Professor Nichols tells us that in a cord (3000 pounds) of common barn-yard manure, there are only seventy-four pounds, or a trifle less than two and a half per cent. of fertilizing materials. These are the "mineral salts," and they contain some substances which he does not give in his receipt for a perfect manure. (See Sec'y Flint's 14th Annual Report, page 232.) Some of the best chemical authorities give the amount of water—pure oxygen and hydrogen—in fresh cow dung, at within a fraction of ninety per cent.; and thoroughly rotted dung at about sixty per cent. (I quote from memory.) Now, as an artificial manure, farmers give no attention at all to water, and so we see that a very large per cent. of our farm yard manures are useless, whatever our opinions may be in regard to other elements.

The statements made above in relation to the diseases, consequent upon the lack of bone material in food, which cattle suffer, lead to another application of the principle, as it relates to the *preparation of food.* Dr. Allen, in his physical history of various nations, alludes to the increasing decay of teeth; mainly resulting, he says, from the extensive consumption of fine flour, from which that portion has been bolted which contained the principal part of the bone material.

The people of new countries and mountainous regions,—the soils of which contain a large proportion of inorganic fertilizing materials,—are larger and more bony, than those of older portions of the country, where the soils are partially exhausted, and the crops are consequently less highly stocked with these mineral substances.

According to Liebig, all the animal excrements, liquid and solid, produced from a crop, can never supply all the material for the reproduction of that crop,—a part of the material having been appropriated by the consumer in the manufacture of bones, and other portions of the physical system.

Now do not the facts which we see in nature seem to give evidence, (I will not say proof, which may require a combination of evidences) that if a crop is reduced to its ashes, either by decay or combustion, those ashes *fully restored to the soil, in their perfect condition,* will reproduce that crop with the simple aid of nature, as she universally manifests herself?

Some of the ideas expressed above, were suggested by Mr. Dodge Hayward, in his lectures.

In regard to the truth of his theory, its proof rests on the test of practical experience. And to give Mr. Fleming an opportunity to learn something of the results of its application, I will refer him to two citizens of Milford, both men of a high degree of intelligence and reliability. These are Mr. S. P. Carpenter

and Mr. Elias Whitney. The former is well known in Holliston and Milford, and was formerly a boot manufacturer. The latter is one of the overseers of the poor, and a special policemen of Milford. If the statements of these gentlemen are of any value, Mr. H.'s compound is a *success*—private opinions to the contray, notwithstanding. I have no personal interest in it, farther than its effects on my farm are concerned. Let us give it a thorough trial, and report the result. I wish to say a few words in regard to the comparative fertility of the soils of different localities, to which allusion was made in the FARMER for the 18th of January.

I take standard scientific men for my authority.

The inorganic elements of all soils are composed of disintegrated rock. The surface mould is formed by the accumulation of decayed organic substance. Its prime advantages seem to be mechanical, such as the results of the former appropriation of its minerals, which have thus been reduced to a peculiar state of fineness and solubility, and rendered more immediately fit for plant nutriment. Also its absorptive and retentive powers, &c. This organic matter is of very slow formation; but in particular localities as on the prairies, it has washed to a great depth, and is the accumulation of ages,—perhaps of a length of time as great as that in which, according to Prof. Agassiz, the minute coral Polyps were at work, forming the whole Peninsula of Florida. I have forgotten, but it must have been a great many thousand years.

Dr. Nichols says, in his *Chemistry of the Farm and Sea*, that the pure granite is the parent rock of all; containing all the elements of all other rocks, which vary from *that* in their lack of certain of its elements. So it appears that a soil formed of pure granite is perfect in its supply of all the elements of inorganic plant food. While soils formed from imperfect rock are lacking in some of these elements, but may contain a large proportion of alkalies and other valuable fertilizing substances of great manurial value. Nearly all limestone is of animal origin, and was produced from the waters of the sea, where its vast accumulations were once held in solution; while marble seems to have been made up from the relics of these minute creatures still apparent to the eye, by aid of the microscope, even in their stony combination.

Asking pardon for the undue space I have unintentionally occupied, I will close with an allusion to the theory of Agassiz, concerning the formation of our agricultural soils. North of thirty-six degrees he says, from the Atlantic to the Pacific, it is mostly of foreign origin. Instead of being composed of portions of the original surface rock, the materials of which it was made were brought down from the North, embedded in the glaciers of the drift period, all this region having been covered with vast fields of ice. These facts account for the difference between the loose boulders of our surface soils, and the original surface rock beneath.

Massachusetts, Feb. 1, 1868.

For the New England Farmer.

ENGLISH FARMING ON RENTED GROUND.

SUCCESS AND FAILURE.

In looking over some of the back numbers of the NEW ENGLAND FARMER, while sitting alone this evening, I thought I would drive dull care away by writing to the young farmer who inquires for the practical experience of older farmers in paying for farms which they bought by running in debt for one-half or two-thirds of the purchase money.

I will now bring before your notice two farmers with whom I was particularly acquainted, to show you how one succeeded and the other failed, both of them upon one farm in England.

The one that succeeded commenced farming with the money saved from the wages of himself and wife, both being farm servants, without any education.

The amount of their savings was about £240 sterling, or $1200. This man hired a farm of three hundred acres of land, and had to keep eight horses to work the farm and men in proportion, it being a grain farm. He never had a horse worth more than forty or fifty dollars. He paid something like twenty-five shillings ($6) per acre rent, besides taxes. This man lived to the good old age of ninety years; brought up a family of five children, four boys and one girl, all of whom worked hard while young. He gave to his daughter, at different times, somewhere in the neighborhood of sixteen hundred pounds sterling, ($8000) and bought a small farm for each of the boys, and paid the last mortgage for the same six years before he died, besides starting two of the boys upon rented farms previous to buying. One of these failed and was started again upon one of the farms that he had bought. The fourth boy went to London to be a merchant, but on commencing business for himself soon failed. He was then started by his father upon a small farm that he had bought. The old gentleman was a good farmer, a good moral citizen and well respected. When he lost his wife he retired from farming and lived with one of his grandaughters, whom he had brought up.

The other farmer who succeeded him on this place was a young man, full of health and vigor, whose father was comfortably off in the world, and who started him with eight large fat horses, good wagons, carts, tools, and indeed everything that such a farm requires. This young man boasted that he would show them how to farm; saying that the land had not been managed as it ought to be, &c., &c.

In one word, he was going to do great things and made a great show. Well, what was the result? As the good Book says, you did run well; who did hinder you? No one but himself. He soon got a notion of spending his time at shoemakers', tailors', and carpenters' shops, and of going to neighbors' houses to smoke his pipe, and by attending to other peoples' business, neglected his own, and left his men to do that which he ought to do himself, and to do it in their own way. He kept his horses in the stable when they should have been in the field. The result was that in less than ten years everything he had went under the auctioneer's hammer.

Now Mr. "C. B. R." and other young farmers, you see in the above statement how one man succeeded and another failed on the same farm. Both of these men have their representatives in America, as well as in England.

To pay for your farms, then, as others have done, you must, in the first place, get good tools, and a pair of good hands to work them, but not in kid gloves! Let the farm have your undivided attention. Give up smoking and drinking, and loafing at stores, &c., and if there is any difficulty about farming that you do not fully understand, inquire of some good practical farmer. Do not place much confidence in the advice of men that can farm for other people, but cannot, or do not, succeed in farming for themselves; but write to the NEW ENGLAND FARMER, or any other agricultural paper, and I doubt not but some one will give you the required information. But above all, let PERSEVERANCE be your motto. E. H.

Jeffersonville, Vt., Feb. 7, 1868.

THE HORSEMAN.

The horseman should be one of the most patient men in the world. His temper should always be under perfect control. Blind passion should never get in the ascendant—if it does, the poor horse will suffer. But the horseman should not only be a patient man—he should also be a kind and good man. He should not like to inflict any unnecessary pain or punishment—his heart should be too kind for that—for it is by the law of kindness, after all, that the horse should be trained. His education should proceed precisely as a child's—but the child has a great advantage over the horse, for it can understand language, and the poor horse cannot. The child must learn his alphabet before it can spell and read, and it should not be punished for not knowing how to read before its letters are learned. The horse, too, must have his a, b, c's taught him—so to speak. He has certain lessons to learn—and these lessons must be taught with patience and kindness. Only one thing should be taught at a time, and that should be thoroughly understood. Then another step in advance can be taken; and when that is thoroughly learned, again proceed, and so on. There will be no difficulty. Every thing proceeds by simples—every thing is understood. Many men do things by force. They give the horse's understanding the go-by. They don't seem to think he has any understanding or senses—but has he not? Cannot he feel and smell, and see and hear and remember, as well as any of us, and even better? He must be taught through his senses and memory. Should not the horseman be, then, not only a very patient, a very kind and good man—but should he not love the animal which engages his attention! If he does not, he is not a genuine horseman. He will not treat him with that kind and tender regard that he should, if he does not love the noble animal which he handles.—*Rural World and Valley Farmer.*

IMPORTED HORSE CONSTERNATION.

I write for information concerning the imported horse "Consternation," a fine portrait of which is given in the Monthly FARMER for 1853, page 513, but with few particulars about him, and I think you have not mentioned him since. I have seen in some agricultural journal a statement that the horses of a portion of the State of New York had been very much improved by said horse, but it did not say when he was imported or by whom. I have an acquaintance who claims to know that he has been kept in Herkimer county, N. Y., as a stock horse, and that he is well acquainted with his stock. I expected to find all necessary information concerning him in "Wallace's American Stud Book," but he is only mentioned twice, and then simply as sire to two celebrated trotters, Julia, six years old this spring, and Lady of the Lake, ten years old this spring, both chestnut mares belonging in the State of New York. One reason why I wish to know particularly about this horse is that I like to be well posted in regard to all good breeding stock in the country, both horses and cattle, and another is, I have purchased a fine pair of mares, sired by him, for breeding purposes. They are splendid animals and were raised by a Mr. Read of Herkimer county, N. Y. Please inform me by whom this horse was imported, where kept, with as particular a description as you can give. JOHN DIMON.

Pomfret, Conn., March 5, 1868.

REMARKS.—We have ransacked the Transactions of the New York State Agricultural Society from 1845, the year in which "Consternation" took the first premium on "blooded horses" down to the present time, and also "Frank Forester's Horse and Horsemanship," without finding as complete an answer as could be desired to the inquiries of our correspondent. Mr. Herbert, "Frank Forrester," gives the following as the pedigree of the imported horse

"Consternation—Foaled, 1841, by Confederate out of Curiosity; Confederate by Comus out of Maritones; Curiosity by Figaro out of a Waxy mare. A horse of great size and strength, imported especially to improve the breed of ordinary horses."

The only other mention of this horse which we find in this work is an incidental allusion in the following paragraph:—"I have often wondered that among the many importations of stock by our spirited and enterprising breeders, who are doing so much for the improvement of horses and cattle in America, no one has thought of importing some fine, roomy, sixteen hands, half or two-third parts bred mares by highly reputed sires. I am satisfied that such mares judiciously bred to the strongest and most powerful of our American or imported stallions,—such horses as Consternation is reported to be, or as Boston is,—would do more to improve the stock of the United States, in size and substance, without loss of speed or blood, than any other plan of breeding can effect."

In the Transactions of the New York State Agricultural Society for 1845, we find the following statement, but no further description of the horse:—"For the best stallion, four years old and upwards, the first premium, $20, was awarded to the imported horse 'Consternation,' belonging to C. T. Abbott, of Oneida county, N. Y."

In the Transactions for 1849, we find the remark, by the awarding committee, that "the horse Consternation, owned by J. B. Burnett, of Syracuse, was shown, but having received the first premium in 1845, a certificate is awarded him as the best horse on the ground."

In 1851, a diploma was given him by this society.

In 1852, the committee of the New York State Society on Thorough-bred Horses, of which Thos. Motley, Jr., of West Roxbury, Mass., was chairman, say:—"A thorough-bred stallion, Consternation, owned by J. B. Burnett, Esq., of Syracuse, eleven years old, was in the opinion of your committee a very superior animal, and to say the best horse exhibited would indeed be faint praise. His pedigree as shown to your committee, was not only *perfect* but *brilliant*, and his stock, of which quite a number was shown, is a sufficient guarantee of his character as a 'getter' of superior stock. Having taken the first premium heretofore, excludes him from receiving a premium."

We have also examined the series of articles written for the *Turf, Field and Farm*, but without finding any allusion to this horse. Probably Consternation was not distinguished as a racer, and therefore little notice has been taken of him in our American horse books, which are largely confined to animals that have acquired a turf reputation. Enough, however, has been said, we hope, to provoke some one who can do so to furnish a more satisfactory history of this horse.

For the New England Farmer.

"AID TO SPECIAL EDUCATION."

In an article in the FARMER of Feb. 22, with the above title, "J. B." objects to any grant in aid of the Agricultural College, on the ground that "it is a specialty; that the whole community is to be taxed for the benefit of a class; that only within certain limits the prosperity of agriculture implies the prosperity of the State;" and that the only encouragement and assistance farmers need should come from their own resources, and from the stimulation to be derived from the general prosperity of other pursuits.

In the eastern part of the State, where the consumers of the products of the soil far outnumber the tillers thereof, and maintain a great preponderance in business, in wealth, in position and influence, there may be those who regard agriculture merely as one of the many specialties of her citizens, and farmers, as one of the useful classes to whom a higher education would be beneficial, would elevate their avocation, and, in time, would redound to the honor of the Commonwealth, upon the principle that the good of the individual is the good of the community; but who hold that the number of farmers is so small, and the amount they produce for the subsistence, or contribute to the business of the community so trifling that any legislation in their behalf, would evince a spirit of favoritism unjust to other classes of citizens. Only keep commerce active, and the factories and workshops fully employed, and agriculture will follow in their wake, and take care of itself.

But suppose this view of the subject were extended beyond a thirty mile radius of "the hub," so as to include the whole State, or what is better, the United States, what is the effect of their reasoning? The grand old maxim that agriculture is the basis of commerce, manufactures, and the industrial arts, would be annihilated by it; and the wealth now being gathered from fertile soils, and which can be increased for generations to come, dwindles into insignificance beside the riches to be derived from other resources. No longer could any of the products of the soil be crowned king. A bountiful crop of wheat or corn, giving a large surplus for shipment, would be about the same to the country as a meagre crop. Two million bales of cotton would be rated about the same as five, for only "within

certain limits the prosperity of agriculture, implies the prosperity of other pursuits." The Bureau at Washington should be abolished, for agriculture is only a "specialty;" all direct legislation for its promotion should cease, for the grants of land by Congress for establishing agricultural colleges constitute dangerous precedents for the various professions, trades, sectarian schools, &c. Therefore protect the manufacturers and miners, legislate for commerce, inland navigation and railroads, and let agriculture depend upon its own resources for its higher and better development, for its reflex influence on public prosperity is too slight to claim aid or sympathy.

But no country can thus ignore its agriculture; nor is the natural order of things so changed here in Massachusetts that her agriculture is not still of vital importance, nbr is she reaping such riches from her many and varied pursuits that she should not condescend to take a little more profit out of her soil. Her wealthy and liberal minded citizens have always manifested a lively interest in rural life and occupations, and her legislators have lent a helping hand to the societies established for the promotion of her agriculture. Shall her present representatives refuse to recognize its claim, and withhold such assistance to its long expected college as shall put it upon a level with other educational institutions? The school or college is but an inherent part of agriculture itself; the men there educated, and the principles and methods there verified and promulgated, will go forth to every part of the State to make their influence felt through every town and district. Money given for the endowment and support of an agricultural college, is better appropriated than when donated to the different societies to be offered in premiums. A premium is often bestowed for a chance production,—the receiver neither understanding how he obtained his success, nor able to repeat it. A thorough education is the basis of real progress; it enables men to trace the relation of cause and effect, so that when they have attained a certain end, they can again go through the same process with the same results, and can tell their neighbors how to do likewise. The graduates of such an institution will go forth into every part of the State to extend a knowledge of the principles and methods there taught and verified, and to make their influence felt in every town and district.

Were the benefits of the project confined to the farmers themselves and to their immediate precincts, or did they carry their produce out of the State for sale, the various classes of consumers might object to any public aid in its behalf; but the relation of the consumer and producer in this State is somewhat peculiar; the consumption being greater than the production. Hence the farmer is not strictly dependent upon the flourishing condition of other avocations for the sale of his produce; all he raises can be sold, even when business is dull. There may be a stagnation in commerce and in all the hives of industry, and even then the demand for food will be greater than they can supply. Boston is one of the dearest markets for provisions in the country. The purchaser is reminded of high prices every time he buys his beef steak, or spreads his dear bread with his dearer butter, and he inquires wishfully if something cannot be done to lessen the cost of the necessities of life. Any project, therefore, that will throw a larger amount of food into the market and make it of better quality, concerns every man, woman and child in the Commonwealth. None have a deeper interest in this than manufacturers themselves. By their situation in a corner of the union, they are compelled to make long transportations of their materials, and afterwards of their merchandise for markets. And they will find in the rising establishments in different parts of the country nearer the raw material, fuel, and cheaper provisions, a sharper competition than they have hitherto met from foreign manufacturers. How can they contend with their rivals unless they have the advantage of cheap labor? Cheap labor depends mainly upon cheap food. Where shall that cheap food be obtained? Shall it be sought from our own soil, or from remote localities? Shall no effort be made to improve the thousands of acres of land lying in waste, or only imperfectly cultivated, in sight of our populous cities and towns? Shall expensive lines of railroads be built over high hills, through mountains, and across deep and wide rivers, that provisions in greater abundance may be brought from the valley of the Mississippi? Shall the State continue to pledge her credit in furtherance of such enterprises? She is now expending more from the public treasury for tunnelling one mountain than would build and endow several agricultural colleges.

Notwithstanding the increased number of routes of transit, the rates of transportation have increased, and staple products are dearer now than fifteen years ago. Transportation will always be a formidable obstacle in the way of drawing supplies from a distance. Since these measures do not bring food down to the desired standard, why not try the plan of bringing the whole State under a high cultivation? Our farmers can put into market many kinds of produce of a superior quality, and in better condition and at cheaper rates than they can be procured from the west. Rough, rugged and sterile as our soil may appear, it can yet be made to yield sustenance, comfort and pleasure to a far greater degree than at present.

Manufacturers may well regard farmers as working for them in furnishing food and supplies for themselves and their employees, and therefore they have a direct interest in every improvement in the farm. The money expended for home productions is kept within

the State. The agricultural college is a home enterprise, and the interests of manufacturers, mechanics and of every consumer should prompt them to favor every public measure for the better development of our own resources, and instead of wishing that the State should do less, they may regret it has not done more to develop our agricultural resources. If but a tithe of the money loaned from the public treasury to railroads to gain access to the West, had been devoted to the cause of agriculture, the State, in my opinion, would have been richer and more independent to-day than it now is. N. S. T.

Lawrence, Mass., Feb. 27, 1868.

For the New England Farmer.

BOARDS vs. HAY.

If I "free my mind" now, I suppose three-fourths of your readers will think I am a fit subject for an insane asylum, so contrary to general usage will appear my notions; but the fact is, I am getting waked up on the subject of *boards!* Ever since I had the correspondence with Mr. Scott, of Craftsbury, Vt., in regard to his remarkable cow, manner of keeping, &c. (the substance of which went the rounds of the papers,) I have had a constantly growing conviction that thousands of dollars and "cords of mercy" have been annually lost in New England for want of a proper appreciation of boards and nails. Farmers have had a kind of vague idea that they were useful for fencing,—for enclosing barns so as to keep the snow and rain off the fodder,—and some, within a few years, have got to thinking that is was well to use a few to protect their farm stock from the severest part of our winds and storms! But the idea that *comfort* is appreciable by dumb beasts; or that *boards and nails* can afford it, or that the *loss* of it amounts to the same as the loss of *dollars*,—is one yet to enter the minds of at least not a few of our farmers! I assume it as an incontrovertible thesis that whatever detracts from, or lessens, the comfort of farm stock is a pecuniary loss to their owners, and a net loss by so much as the value of it exceeds the cost of affording it. For example: if, at an expense of two dollars, for boards nails and labor, I can so enclose a cow stable that no manure dropped after shutting it up at night, shall be frozen before opening it in the morning, in the coldest nights; that there shall be no frost on any creature; that the five cows shall each yield one quart more milk, worth five cents, and each require five cents less expense for feed each day for one hundred days, I have saved fifty cents for each day, or fifty dollars for the hundred days. Now deduct the two dollars expenses and there is left forty-eight dollars, which would have been *lost* had I not used these boards and nails!

The above is not a mere fancy picture. The like of it I did myself two years ago, the first warmish day after receiving a description of Mr. Scott's stable, and the like ought to be done in nineteen-twentieths of the stables in New England.

It is a very common observation, when mild weather comes after a cold snap, "that the cows give more milk." Although the effect may be thus traced to the cause, reasoning stops there instead of going on and considering why we may not have such mild weather for our stock *all the time.*

It is surely attainable, and at a much less cost than the value of the result. Stables for all kinds of stock may very *easily* be made so tight that the animal heat from the stock will entirely keep out the frost. If a stable is tolerably well enclosed on *all* sides and so situated that the severe winds are broken before striking it, each animal will warm a space of four or five times the size of its own body. Many stables are sufficiently enclosed except the *front*, where a few boards can easily be hung on hinges, for a dollar or two, so that in severe weather the stable can be entirely enclosed, and in milder weather easily ventilated to any desired extent.

The same that causes the cow to give more milk in warm winter days, would cause the ox or horse to take on more flesh if the same food is consumed, or not *lose* flesh although allowed a *less* amount of food. Dollars and cents are what we are apt chiefly to consider in regard to our farm stock, but if we looked more to their *comfort*, the dollars would be more likely to take care of themselves. With a light expense for boards, nails and labor, I believe an average loss of two to ten cents a day, on every horse, cow and ox in New England can be saved! besides the very comforting consciousness of doing to others as we would be done by. After two years' experience myself with warm and yet ventilated stables, I will say to all who will immediately put my recommendations into practice, that, after one year's trial, if they do not think it was a paying investment, and will send me the bills incurred, I will forthwith remit them the amount from my own hard-earned and scanty resources.

Jack Frost is surely a robber, but still he is so polite that he would not enter your cow's bedroom without your leave. Use boards and nails enough and he won't be all the time carrying off your feed on the road through your animal's stomachs! If your stable has an open basement underneath, just nail on refuse boards under the sleepers and fill between them with spent tan, straw or chaff, and see that the floor over them is covered at least a foot deep with hay, straw stalks or something to keep in the animal heat. R. N.

Randolph, Vt., 1868.

—It is proposed in the Massachusetts Legislature that all land devoted to growing forest trees shall be free from taxation.

EXTRACTS AND REPLIES.

EXPOSURE OF ORCHARDS.—COB MEAL.

I am a reader of both the NEW ENGLAND FARMER and the *Maine Farmer*. In a recent number of the *Maine Farmer* there was an article in regard to orchards in sheltered places. It was stated that in a choice of two situations, a sheltered one and one open to the west winds, that the choice would be the open unsheltered spot. This was contrary to the opinion I had formed. I have a young orchard of New York trees that is sheltered by a belt of woodland from all but the south and south-west winds. Would it be best to cut away the wood so as to open to the west winds? Will some one who can speak from experience, please give me the benefit of that experience?

I do not agree with Rusticus in regard to corn cobs. I have never considered clear cobs worth grinding, but have had some experience in feeding corn on the cob ground, and clear corn meal. I give a decided preference to corn cob meal. I think it is less likely to become solid in the stomach. M.

Paris, Maine, March 4, 1868.

REMARKS.—What is a sheltered, and what an exposed situation? Half of the controversies and half of the misunderstandings between men arise from not understanding what each other mean by the words they use. There can be no question, we think, that an apple orchard may be too little or too much exposed to winds, and that neither the most bleak nor the most sheltered situation is to be preferred. The late S. W. Cole, a most careful and thoughtful writer on pomology, who cultivated fruit trees both in Maine and in Massachusetts, and who was editor of the NEW ENGLAND FARMER at the time of his death, has this paragraph in his *Fruit Book*, page 83:

Moderate elevations, or undulating lands, or hills are the most suitable locations. In very low, sheltered situations, there is more exposure to the extremes of heat and cold, and late spring frosts, and early fall freezes; yet the apple is hardy and will generally succeed in such situations. On very high locations, especially on the tops of mountains and high hills, and some other bleak places, there is too great exposure to winds and pelting storms, which may injure the blossoms, fruit and foliage.

Mr. Chauncey Goodrich, late of Burlington, Vt., who published a little work entitled *The Northern Fruit Culturist*, in speaking of favorable locations for an orchard excepts natural meadow or bottom land, and says, "in the northern part of New England, in situations one thousand feet or more above tide water, places sheltered from cold by hills or natural forests, and having a fair exposure to the sun should be selected when practicable. Among the hills of New England there are many rocky glens of little value for agricultural purposes which are best places for fruit trees." He also alludes to the fact that on the banks of some of the small rivers emptying into Lake Champlain young trees grow vigorously for a few years, but invariably die before producing fruit, while apples are easily raised on the hills a few miles distant. But he ascribes this to the unfavorable soil of the valleys rather than to the benefit of hill exposure. The benefit of straining the ocean wind through a very high lattice garden fence, as practiced by Mr. Tudor, at Nahant, is often cited in favor of protection for fruit trees.

Without a better understanding of the situation of our correspondent's orchard; without any knowledge of the elevation of his farm above the level of the sea, or above the general level of the land in his vicinity, or how bleak would be the situation of his orchard after the removal of his belt of woodland, we should certainly hesitate about advising him to cut it down; and so we think would the writer of the article in the *Maine Farmer*.

RED OR BLOODY WATER.

Though conscious of my inability to write, I cannot forbear an attempt to give my reasons against the advice of Mr. Taplin in a late number of the FARMER, to knock an animal in the head, and save its hide, that has been troubled with this disorder ten or twelve days. I will confine myself to facts that have come under my own personal observation. When I was a boy, my father had an ox taken with the above disease. Some simple remedy being administered without much effect, the ox was fattened and killed; thus more than the hide was saved. A few years later he had a cow taken in the same way, but as she was a very extra milker, he wished to keep her as long as he could, and therefore tried all the remedies he heard of; among which was resin, which appeared to do the most good, but none entirely cured her. She was, however, a good cow for two or three years, and was finally turned into beef. Since that time he has had a number of others, similarly troubled, including all, I think, of that cow's calves that were kept to maturity, and with the same result as to remedies and cure, except the last. That one showed the first symptoms in the early part of the winter, when she was with calf. When she calved she was so weak that she could not get up alone for a long time; but disliking to kill her and having heard that some strong acid, sulphuric, I think, had been used with benefit, it occurred to him that vinegar might be good, and he therefore commenced using it, and the result was that in a short time she regained her strength, did well through the summer, was fattened in the fall, and slaughtered and brought $35.

The bladders of all were examined, and each one found to be lined with what appeared to be seed warts. In the last one, the warts had the appearance of being healed over; while in the others, blood was oozing from them.

No one would advise a neighbor to kill an animal that had a wart on its neck or leg that would bleed when chafed, yet friend Taplin's advice is just as unreasonable in my opinion, and I hope it will not be rashly followed by those unacquainted with the nature of this disease. B. B. S.

Dover, Me., March 4, 1868.

FATAL DISEASE AMONG THE CALVES.

Charles C. Kimball, of Webster, has lost five calves this winter, say from eight to twelve months old. The first symptoms of disease noticed was their heads being drawn towards one side; then a staggering gait, sometimes falling, and rising only to stagger and fall again. There was no loss of appetite, as they would eat as long as there was strength to masticate. Soon they were prostrate, when copious drenching resulted, and death ensued in a few hours—perhaps six or seven—from the first indications of disease. They

were the last and strongest of his cattle of that age. Nothing was discovered when the skins were removed; the carcases showing a healthy condition next to the skin. What was the disease? F.

Mast Yard, N. H., March 4, 1868.

REMARKS.—Who can answer that question? Were they poisoned by bad water, or by any improper food, such as rusty straw, &c.

CUTTING OATS GREEN.

At a recent meeting of the Waitsfield, (Vt.) Farmers' and Mechanics' Club, O. E. Wilder stated that last summer he cut an acre of oats soon after they were headed out, and this winter he fed them to 10 cows, lasting them for their entire feed, three weeks and four days—nearly equal to thirty-six weeks for one cow. The cows meanwhile increased in their milk, when naturally they would have decreased on ordinary fodder. The land was seeded to grass, and he intends to put what grows on the same piece next year by itself, and feed it to the same number of cows, and note the result. He thinks that he cut the oats a little too early, and that if they had been left till full in the milk they might have been better. He also believes that the fertility of the soil was not exhausted nearly as much as if the oats had ripened. More of us, I think, will try cutting oats for fodder next summer. NED.

Westfield, Vt., 1868.

REMARKS.—We have cut oats for fodder several times, and when we have seen how much of the straw was left among the orts by the cows, we have almost every year concluded that we did not cut them early enough.

WASTE FROM WOOLEN MILLS.

I should like to know how to make a good manure of the dye-stuff or picker-waste that comes from woolen mills. W.

Blackstone, Mass., Jan. 18, 1868.

REMARKS.—The waste of woolen mills is considered a very valuable material in the compost heap. Mr. T. S. Lang of Vassalboro', Me., uses the ashes and waste from an extensive mill in his neighborhood. From notes of a visit to his farm, published some time since in the *Maine Farmer*, we learn that after being mixed with muck it is in this case saturated with the contents of the privies connected with the mills. Where this cannot be done it is formed into composts of thin alternate layers with loam, turf, &c., or left in heaps to heat and decompose. The "dye-stuff or picker-waste" may be less valuable than that usually known as "wool waste."

LAMPBLACK.

I have a lot of lampblack not suitable for the purposes intended. Can I use it to any advantage in my garden? If so, how shall I apply it?

Medford, Mass., Feb. 10, 1868. A READER.

REMARKS.—It is not often that the farmer has an opportunity to experiment with lampblack as a fertilizer. In Europe, where everything of a vegetable or animal origin is more carefully saved than here, soot which is probably something like lampblack, is regarded of much value as a fertilizer, and it is also used to protect plants from insects. It is said that as high as $45 per load has been paid in England for soot for the purpose of killing insects. Three or four quarts of soot dissolved in a barrel of water is said to be about equal to guano as a liquid manure, especially for flowers. About eighteen bushels is said to make a valuable dressing for an acre. Whether lampblack would prove equally valuable for these purposes, we can not say. But as lampblack "consists of finely divided carbon, more or less mixed with the various compounds into which the elements of vegetable substances resolve themselves when submitted to the process of destructive distillation," we think it must be valuable in the compost or manure heap, in which form, perhaps, it may be most conveniently applied.

THE GREATEST AMOUNT OF COW FEED.

I am a "Mechanic" having ½ acre of good land, which has been planted to potatoes five or six years. Having a good cow I want to lay this land down to grass this spring. I want to get the greatest amount of good feed for next winter. Now, Mr. Editor, how should you manage it if it were yours. Do you bind the Monthly FARMER? What is the cost of binding? Please name the handsomest evergreen bush, and you will oblige

A READER OF THE MONTHLY.

East Abington, Mass., Feb. 22, 1868.

REMARKS.—The greatest amount of feed can undoubtedly be obtained by the "soiling" plan—that is, by raising "cow corn," rye, oats, roots, &c. It is estimated that one acre thus managed will do as much as from three to seven in pasture. Being a mechanic you and your boys need the out door work. Suppose you buy the little work on Soiling, by Mr. Quincy, of A. Williams & Co., and see what you think of it. The Monthly is neatly bound for 75 cents. Tastes differ as to evergreens; but, if it were dear-bought and far-fetched, what would be more beautiful than a white pine?

SPRUNG KNEES.

For sprung knees in a horse, we use equal parts of common soft soap and water applied warm and well rubbed in, and rub the legs dry. One should spend half an hour three times a day in this way for ten days, letting the horse stand in the stable or pasture without using. In this way we have known a badly sprung knee to be nearly straightened to its original place, after which it was washed for two or three weeks, three times a day in a decoction made by steeping the inner bark of white oak (taken from a young growing tree) until the water was of a reddish hue, and mixing the oak juice with the best of brandy, at the rate of two parts of oak juice to one of brandy; and rubbed freely. Z.

Reading, Mass., March 10, 1868.

ITCH IN PIGS.

Having a lot of young store pigs troubled with the itch and scurvy, which kept them miserably poor, I gave them two or three doses of stone brimstone, grated fine—the powdered being too weak,—in some skim or sour milk to ensure their eating it. A day or two before giving them the brimstone I grease them well along the back, all over the head and ears, and behind the fore legs.

I also had the chamber-lye emptied into their swill tub. I let the pigs run out into the brush, and in a few days their amendment was quite visible. Just for the experiment, I washed one of the pigs after the household washing was done, and it was so clean and free from scurf that the other pigs did not know it, and beat it away from the trough. I have long used and known that the chamber-lye is an excellent preventive and cure of the itch and other diseases to which the pig is subject.

JOHN WHATMORE.

Bridgenorth Farm, Dunleith, Ill., Jan. 15, 1868.

REMARKS.—We should have much confidence in the efficacy of the sulphur, the ointment and the wash, without the latter part of our correspondent's prescription.

RED WATER IN COWS.

Some ten years ago I had a cow attacked with the red water, about eight days after calving, and not knowing of any remedy I lost the cow in about two weeks. Since that time I have had several cases, and found the following to be a sure cure, if administered in the first stages of the disease. Two ounces sweet spirits of nitre, one ounce balsam copaiva, diluted in one pint of water, administered morning and evening until the water assumes to its natural color. If the animal is costive, give Epsom salts until the desired effect is produced. If the disease has had ten or twelve days standing without any remedy the better way is to knock the animal in head and save the hide.

LEANDER TAPLIN.

Chelsea, Vt., Jan. 27, 1868.

BRONZE TURKEYS.

In the Monthly FARMER of March, 1868, there is an inquiry from friend Charles W. Griest, York Sulphur Springs, Pa., to this effect:—"Where did the bronze turkeys originate, and where can they be obtained, weighing forty pounds?"

To his first inquiry I will answer:—They originated, with a race of turkeys of large frame, on a good sized farm, with its "three barns," with plenty of grasshoppers, for dessert, and three regular feedings per day of shelled corn for one or two years. This is the whole secret of "bronzing." And to the next inquiry, where he can get these forty-pounders? If he will allow a "fowl-fancier" to *guess* at the weight, he can obtain them in the vicinity of Boston, for twenty guineas, the gold to precede the delivery of the turkeys.

Taunton, Mass., March, 1868. A. BAYLIES.

WORMS IN HORSES.

For this trouble, I have found the best cure to be a plenty of grain. If the horses are young, a good quantity of fine feed and but little meal, or, if fine feed cannot be had, plenty of oats, feeding at proper times is sufficient. Oats seem to be the natural food for horses. A good Condition Powder for horses can be prepared by any one, from the following articles: four ounces, each, or equal quantities of Black Antimony, Common Sulphur, Cream of Tartar, Epsom Salts and Saltpetre. Mix them well together. Dose a common table-spoonful once a day, given in the grain. The above is a good alterative for a horse a little off his feed; is also good for worms. Z.

Reading, Mass., Feb. 8, 1868.

A GOOD HEIFER.

Enclosed, I send you a statement of the amount of milk given by my heifer during the year 1867. The heifer I raised. She was two years old the first day of May, 1866; dropped her first calf on the 26th day of Dec., 1866, and is to calve again July 4, 1868. I weighed her milk for ten days, (from the 10th to the 20th) of each month in the year 1867, with the following result:—The whole amount given in the 120 days, on which I weighed her milk, was 2405 pounds, making an aggregate of 7315 pounds in 365 days, or an average of a fraction over 20 pounds per day for the entire year.

FRANCIS W. HAYDEN.

Southborough, Mass., Feb. 7, 1868.

SPRUNG KNEES OR CONTRACTED CORDS.

I have a very valuable horse that has got his knees sprung. Can you, or any of your numerous readers of the FARMER, tell me of anything that I can do to straighten them up in their place again. I have read almost everything under the head "Extracts and Replies," but have not seen anything touching this point. J. M. CANNEY.

Ossipee Centre, N. H., Feb., 1868.

REMARKS.—We do not think there is any remedy for sprung knees in a horse; we have never known a cure attempted.

SICK OX.

Having had an ox with similar symptoms as those described by "A Subscriber," of Ripton, Vt., in a late number of the FARMER, I doctored him for horn ail, by putting a table spoonful of spirits of turpentine on the top of his head between his horns, repeating it two or three times, at intervals of two days, which cured him. If it is not horn ail, the application will not prove injurious.

PRACTICAL FARMER.

East Corinth, Vt., Jan. 28, 1868.

SORE NOSES IN SHEEP.

I have seen an inquiry in your paper several times as to the cause of sore noses on sheep. Most of the common cases are caused by eating the droppings of poultry. I have known several cases to be cured by removing hens and turkeys from the sheep shed. L. W. B.

Brookfield, Vt., Feb., 1868.

HOLDFAST ON A COW'S JAW.

T. C. Pearson, of Newburyport, Mass., is informed that the advice of his neighbor to fatten and kill a cow afflicted with a "set" or "holdfast" on the jaw, is probably the best that can be given. A surgical operation, which consists in sawing into the jaw above and below the "bunch," and removing the portion of jaw to which it is attached, is the only remedy. If the jaw bone is not diseased, this will be effectual. By means of chloroform, such operations may be readily done.

UNGUENTUM FOR LICE.

I have used unguentum on my cattle with good effect, for three years, and have been in the habit of putting it on almost every part of them. I have known them to lick the parts to which it was applied, but none have been injured by it. My rule has been to take a piece as large as a small pea, and rub it thoroughly into the hair. That quantity applied in three or four places will destroy them. Be careful not to use too much. W. M.

Clinton, Me., Feb. 16, 1868.

PROPOSED PLAN OF BARN.

I am about to build a barn for one of my neighbors, 32 by 80 feet, posts 16 feet, with cellar under the whole, for sheep; and shed 17 by 40 feet. The 80 feet in length of the barn is to be divided as follows:—

Length 80 feet.

Width 32 feet.	Tie-up Stable 13 by 32 feet.	Floor 12 by 32 feet	Bay 30 by 32 feet.	Threshing Floor. 12 by 32 feet.	Bay for Grain 13 by 32 feet.

Shed 17 by 40 ft.

The shed connects with the floor, making it very convenient to slip the straw into it when threshing, rain or shine. In this barn from 50 to 75 tons of hay will be stored, and from two to three hundred sheep kept. Our farmers generally have one or two slides, through which the hay is thrown into the cellar; then they go down and put it in the racks. I wish to save this labor, and propose to have the racks so arranged in the cellar, as to slide the hay from the floor directly into them, and save once handling fifty tons of hay, and over a hundred trips up and down stairs, that are usually made during winter months, as well as to save unavoidable scattering of hay by the tramping and crowding of the sheep. Now to ventilate the sheep cellar, which all sheep growers know is very important, I propose to build a ventilator at least three feet square placing it directly over the centre of the cellar, and running it through the roof. Perhaps some one will say that this will occupy too much room in the centre of the barn. But what is the loss of 225 feet of room, when compared with the benefit of pure air for 300 sheep? As this ventilator passes directly through the mow, which is 30 by 32 feet; it will also serve to ventilate the hay there as well as the cellar below. It may also be used as a conductor for hay into the cellar, if necessary, as on two sides of this ventilator are doors three feet square and 33 feet apart, which swing up from top to bottom. If any one can suggest objections to this plan, we would be glad to hear from them through the FARMER.

AN OLD CARPENTER AND A YOUNG FARMER.
Braintree, Vt., March, 1868.

A GOOSE STORY.—CHANGE OF THE SEASONS.

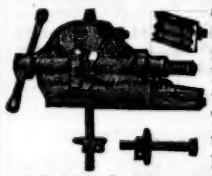
On the tenth of March, 1814, my father, then living in West Boylston, Mass., had a goose "come off" with nine goslings, all of which lived until Christmas time. When this brood was two weeks old, the old goose commenced laying in the hog-pen, near the house. As soon as she commenced sitting, the old gander took charge of the young goslings, and most faithfully did he discharge the duties of step-mother and guardian. Once in two or three days the old goose would leave her eggs for an airing and a wash. As soon as she left the nest for these purposes, she made a call or noise, that only a goose can make. On hearing this call, the old gander would give his young ones a wink, and instantly they would huddle together and remain almost motionless for further orders. The old goose would stand near her nest until joined by her mate, when with the most excessive bowings and gobblings they would start in company for the water, which was about one hundred rods from the house. After bathing, they would return in the same social and boisterous manner; she to her eggs, and he to his patient and waiting little family. Children obeyed their parents in those days! In due time the old goose led forth another brood of seven goslings, all of which grew up to goosehood.

At this time Robert B. Thomas, the author of the old Farmer's Almanac, who, though dead these some thirty years, yet speaketh, was one of our nearest neighbors. He had kept two flocks of geese for forty years, entirely separate, and I remember that he advised my mother to cook the litter of eggs laid so soon after hatching the first brood, as he thought they were not impregnated and would not hatch; but believing the old goose understood her own business best, she was allowed to have her own way, and the result was as I have stated.

But have not our seasons changed? Were there many goslings about this year on the tenth of March? In those days young folks went a-Maying and got flowers; latterly they get little else than wet feet and colds, in their rambles the first day of May. OLD FOLKS.
Winchester, Mass., March 8, 1868.

A VALUABLE TOOL.

Every farmer is, or should be, enough of a mechanic to do such odd jobs of carpentry or blacksmithing as are constantly needing to be done about his house and outbuildings, or in repairing farm implements. For such work, a good vise is indispensable. The one represented in the accompanying cut, known as a pipe vise, and furnished with or without extra jaw, is made in different sizes suited to the lightest or heaviest work. It has a covered screw, parallel movement of jaws, and is very simple in construction. It is one of the many kinds manufactured by the Union Vise Company, of this city.



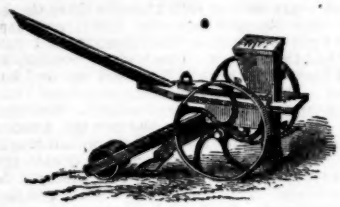
DRESSING FOR WHEAT.

I have a piece of land taken out of the pasture, good soil, hard land; I have planted three years to corn; have not dressed it very high; now wish to sow it to wheat in the spring. How and what shall I dress the same with to ensure a good crop. I have not manure to spare to dress for wheat. Some say, dress with lime. What do you say?
Epping, N. H., Feb., 1868. T.

REMARKS.—If we had the knowledge by which we could tell farmers how to enrich land for a good crop of wheat on our New England farms, without manure, how soon we might retire on an "ample fortune." Some time since, we published statements of several large crops of wheat raised on the tobacco fields of the Connecticut River, by farmers who had experienced successive failure to raise wheat under other circumstances. Without a knowledge of the condition of your land further than what may be inferred from the fact that it was an old pasture and that you have taken three crops of corn and "not dressed it very high," we have not much to say about lime.

Not long since, however, we published an account of an old Pennsylvania farm, run out and

abandoned some seventy-five years ago, being reclaimed by a system of improvement in which salt and lime were largely used. In that case, one and a half sacks of salt and twenty-five bushels of lime were estimated equal to "a moderate dressing of manure." How it might operate on your land we cannot say, but from our own experiments we should not anticipate a paying result.



HERRICK'S IMPROVED DANVERS SEED SOWER.

The sowing of onion seed is suggested by the very name Danvers, where this little machine has been long used and is recommended by Mr. Gregory, in his book on Onion Culture. It has been recently improved in nearly every part and now weighs less than twenty-five pounds, and claims to combine all the requisites of a hand-seedsower, and is adapted to the different kinds of seed. It is advertised in another column.

FILLING VACANCIES IN AN ORCHARD.

About fifteen years ago I set out an orchard of apple trees of various kinds, and a number of them were destroyed by the borers, and by accidents. I wish to know if I can set apple trees in the same places where the others died, and expect them to do well. If not what is the best course for me to take to fill up the vacant places in the orchard. The other trees are good bearers. A part of the soil of the orchard is gravelly, the other part a rich sandy loam.

AUGUSTUS GOODWIN.

South Berwick, Me., March 13, 1868.

REMARKS.—We should have no hesitation in filling up with apple trees, though as a general rule, trees as well as other crops do best under some system of rotation. Give each new tree a load of muck, sods or fresh soil, mingled with ashes, if to be had, and well composted if you have time to do so.

COBS AND CORN.—WIRE WORMS.

It is a custom among us to feed grain to milch cows to make more and better butter. The farmers here raise corn and oats for feed, and have them mixed and ground with the cob. The law in Vermont allows a quart for cracking and two quarts for grinding, or some six to ten pounds toll. Some of the farmers have the cob sifted out, when the bushel of meal will weigh only forty pounds after taking the toll and cob out. Where a farmer feeds from 400 to 800 bushels in a year, this will amount, as corn is now selling, to $60; a sum that would pay for a corn sheller, and leave $50 to pay a hired hand for two and a half months. This amount of corn could be shelled with two hands in four days, leaving forty-seven days for other work on the farm. As cobs are a dry substance, they may be thrown into the hog-yard to absorb the urine, and then put on the land to raise more corn. From three to five pieces of cobs put in a hill of corn at planting will keep the wire worm busy at the pith until the corn has so far advanced that it is out of his way. And finally your cobs are worth twenty per cent. for kindling fires. So you will see that if corn is shelled and then mixed with oats and ground, you have nothing but the pure meal. This will make animals thrive, and their hair will lay sleek, instead of standing like the quills of a porcupine, as it does when you feed with the cob ground in with your corn.

LYMAN J. SEELEY.

Jeffersonville, Vt., Feb. 20, 1868.

IMPROVING STOCK.—SOUTH DOWN CROSS.

I see that "V. M. H.," of Rochester, Vt., asks, are we improving our stock? I answer, yes, no doubt of it. Stock is *kept* better than formerly, and I claim this is one way to improve it. Our flocks and herds are being crossed advantageously, and this must improve them. But if I wished an animal to cross with my stock, I should pay more attention to the good points of the animal than to its *pedigree*. In a late discussion of the question, "Will it pay to change our grades for thoroughbreds?" by the Springfield Farmers' Club, Mr. J. B. Whipple remarked, that he "did not care a straw where an animal came from, if he was only a *good* one. We don't want *second class* thoroughbreds, and the best cost too much for us small farmers." We all know that those who breed fancy stock for market or for show, give it better care and keeping than most of us do our grade stock. Now if we raise good animals and take good care of them, does it matter whether they are grades or thoroughbreds? I should answer this question as Mr. Whipple did. But I have had very little experience in breeding stock, and my opinion would have but little value. As an experiment, I raised four grade lambs, last year, crossing a South Down ram with Merino ewes. These four are the best formed and hardiest lambs I have, and keep in the best condition. This year my lambs will all be of the same grade. I intend to sell for mutton. Can you inform me whether the wool of the South Downs will sell as well as the heavy wool of the Vermont Merino. J. D.

Weatherafield, Vt., Feb., 1868.

TRANSPLANTING MANGEL WURZEL.

Why it is that the planting and raising of mangel wurzel are carried on so entirely different here from what is customary in Europe generally, and in Germany especially?

I do not think you can find an Oekonom (large farmer) in all that country who will plant a single acre of wurzels without transplanting them, and yet a great many are raised there for stock and other purposes. I have never seen elsewhere such large wurzels as are raised in Germany, on a poorer soil, and with less cultivation and dressing than is usually given to them here. In this country I have observed very closely, and have come to the conclusion that the want of transplanting is the great cause of failure.

Every farmer in Germany has a patch of land in a sheltered place near the house, of rich soil, on which he raises all his plants and seeds for the coming season, as well as for the year following; such as beets, turnips, carrots, onions, cabbages, &c., in fact, all the seeds he requires, as he cannot afford to buy old or mixed seeds and spoil his coming crop. At the end of March or beginning of April he sows the seed in beds which are covered with straw cold nights. About the first of May, when the plants are large

enough and the ground is warm, he commences transplanting on each end of the acre. He takes a load of these plants to the field, and while the plough goes along, two boys or women will follow, dropping the plants at regular distances, and at the same time pressing them on the ground with the hand. This is done as fast as the team will work, and in a fortnight they will be hoed. I am sure less labor is required by this plan than by the way practiced here, besides effecting a saving of one-third of the seed. From a fortnight to a month is gained in time, no thinning out being needed, and by fall a larger crop will be obtained.

I have urged my neighbors, who, by the way, are excellent farmers, for several years, to adopt this plan, but they still stick to the old way. I also feel quite sure that beets, cabbages, lettuce, &c., may be raised to greater perfection by transplanting, than by any other course of cultivation.

I presume, Mr. Editor, that some of your readers may laugh about this communication, but let them think it over and try it on a small scale, and I think they will, by and by, agree with me. W.

Dorchester, Mass., March 15, 1868.

APPLYING MANURE—GRASS SEED.

I broke up green sward last fall for planting corn, on which I intend this spring to spread manure. I wish to ask through your columns whether to plough or harrow it in.

I will also ask how much hay seed, and what kinds for seeding down with oats, and how much seed and what kind on natural mowing, where compost has been spread? A SUBSCRIBER.

Fiskdale, Mass., March 14, 1868.

REMARKS.—In relation to the mode of applying manure we refer you to the practical article in another column by Mr. Harvey, of Epping, N. H., and to other articles on the subject.

Our old rule for seeding an acre to grass is one bushel of redtop, eight quarts herdsgrass, and six pounds of clover, the latter sowed on the snow the last of March or first of April. If the land is poor, more seed is needed; if rich, less. Thos. J. Field, President of the Franklin County, Mass., Agricultural Society, stated last year at a club meeting that he used 1 bushel redtop, 12 pound clover, and 6 quarts herdsgrass. As oats are often mowed closer than other grain, there is danger of letting in the sun on the young grass after harvesting the oats.

SICK SHEEP.

I am in trouble about my sheep. Until last fall I never lost but one sheep and two lambs. Now many are diseased. They appear stupid, eyes about half shut and run badly, cough, hold their heads down, refuse to eat, pine away and die. The ewes drop their lambs from one to four weeks before they should, some of which are dead and others die soon. My flock appeared to do well the fore part of winter. They are kept in a shed that opens to the south, and fed on clover till three weeks ago, when I changed to white top hay. N. L.

Phillipston, Mass., March 16, 1868.

REMARKS.—What comfort can any sheep-raiser afford to our correspondent? Dr. Randall gives an account in his Sheep Husbandry of a disease which prevailed in New York in the winter of 1846-7, that he calls Malignant Epizootic Catarrh, which did not yield to any medicine used. The diseased sheep, especially those which abort, with everything connected with the lamb, should at once be removed from the healthy sheep, which should have generous feed, with grain and roots.

WOOL GROWING—FOOT ROT—SORE MOUTHS.

I have been in the sheep business thirty-five years, and the present is the hardest time I have seen for wool growing. I have two clips on hand, but as I hope for better times shall not "let it slide" as yet.

Seven years ago last fall, I bought 100 sheep that came from Vermont, some of which were lame before I got them home. On examination, I found some had the foot rot. I took sharp vinegar, dissolved blue vitriol in it, and rubbed on the parts affected. The disease soon disappeared and I have not seen any of it since.

The first of January my sheep were attacked with sore mouths or lips, and did not eat readily nor drink much. I took lard and tar, equal parts, melted together, and after partly cooled, stirred in a little sulphur. This was applied twice and they are all well now. Of the 146 in my flock nearly all had it. J. H. PHILBRICK.

Sanbornton Bridge, N. H., Feb., 1868.

PARALYZED HORSE.

I have a horse that has been sick a week, and no one that has seen him yet can tell what to do for him. He eats and drinks well, but seems to be very weak across his back, and has lost the use of his hind legs. If he lies down he cannot help himself any about getting up. I am not aware that he has been strained any way. Any information as to his disease or cure will be thankfully received. JAMES F. ATHERTON.

Colebrook, N. H., March 15, 1868.

REMARKS.—Evidently your horse is suffering from paralysis of the loins. Dr. Dadd cautions against the use of violent medicines, and recommends what he calls "anti-spasmodics," which consist of camphor, Indian hemp, assafœtida, musk or garlic, with patience and care. We have heard of beneficial effects in such cases from rubbing the loins thoroughly with a mixture of salt and the yolk of eggs in brandy or other spirits, and then applying a bag of heated oats, and covering with blankets, for a sweat.

PORTABLE FENCE.

I wish to inquire through the columns of your valuable paper for the best and cheapest kind of fence around the house and garden, and cost of same with lumber at $20 per thousand, which may be taken away for the convenience of ploughing the garden, &c. A READER OF THE FARMER.

Warwick, Mass., March 14, 1868.

REMARKS.—We have seen several kinds of patent movable fence, and have published accounts of them, with illustrations. We do not know where any can be obtained just now. Any ingenious carpenter, we should think, could build you a garden fence in panels that might readily be moved.

LABORERS WANTED IN THE COUNTRY.

I see by the NEW ENGLAND FARMER and other papers that in the large cities and manufacturing towns many people are out of employment, and consequently are suffering in many instances for the necessaries of life. I would say to all such,

arise, take up thy bed and walk back into the country where laborers are scarce and wages high.

Down here in Maine, in Somerset and Franklin counties, poverty and want is not known. There never was a time when the laboring man or woman could do any better than now. We pay here twenty to twenty-six dollars per month, and board, for labor, and men are very scarce at that. In the haying season we pay $50 to $75 per month.

We have young men amongst us that clothe themselves in good style, and lay up two hundred dollars a year, by working on a farm for wages.

Female labor is equally scarce. It is with difficulty that we can get a woman or girl to do housework at any wages. O. H.

New Vineyard, Franklin Co., Me., Feb. 16, 1868.

SPRUNG KNEES—CUT WORMS—SCRATCHES—WORMS IN HORSES—FATTING HOGS.

Tell J. M. Canney to put angle-worms into a flannel bag and bind on to his horse's knees. A sure cure; and good also for all cases of contracted cords.

To stop cut worms from eating corn, I put a table spoonful of lime in the hill, when planting, and the same on the hill after covering. It will keep the worms at a distance. Try it.

Common molasses for scratches on horses, well rubbed in with a cob, will generally effect a cure in three applications.

For worms in horses I give poplar bark, cut fine, and mixed with feed, and find it a perfect cure.

A little chalk and alum given to hogs will cause the female to fat as fast as the male.

Brimfield, Mass., March, 1868. ELI POWERS.

A QUESTION FOR STOCK GROWERS.

I know of a colt four years old this spring, which is supposed to be smaller than it would have been if it had been kept well. The question is, Can the colt be made to grow more from this time than it could have been made to grow if it had been kept as well as would have been for its health and growth previous to this time? F.

Mast Yard, N. H., March 10, 1868?

TO PROTECT ONIONS FROM THE MAGGOT.

Put one ounce of onion seed in half a pint of water, and add one ounce of fine salt and half an ounce of saltpetre, pulverized. Set it in a warm place, and stir it three or four times a day for 48 hours. Before sowing, pour off the water and mix dry ashes to separate the seed, and sow in rows from 16 to 20 inches apart.

SAMUEL PALMER.

Cornish Flat, N. H., March, 1868.

ICE-HOUSE UNDER A MILK ROOM.

I wish to inquire of you or any of your correspondents, if it would be a benefit to raising of cream to build an ice-house under my milk house, which is about four feet from the ground, so that a place for ice might very easily be made, if any benefit can be derived from it. G. W. BLAKE.

Georgia Plain, Vt., Feb. 24, 1868.

PLOUGHING AND HARROWING IN MANURE.

Much has been said about the application of manure; whether it shall be ploughed under or dragged in with the harrow. I think both ways are right. On moist, heavy soil no doubt it is best applied to the surface. Still I think I can show neighbor Hubbard as good potatoes as he ever saw raised where the manure was spread on the turf and turned under; the land harrowed and planted on top. My land is a dry loam. Last spring spread a light coat of manure on my wheat ground and dragged in a part and ploughed in the rest. I could see no difference in the wheat or stocking. I intend to do the same next spring, and watch the hay crop on the same. L. K.

Randolph, Vt., 1868.

AGRICULTURAL ITEMS.

—The proposed Exposition of Wool and Woolens has been postponed until 1869.

—Some careful men save hog's bristles to be put on the edge of iron wedges to prevent them from being forced out by frosty logs.

—In Paris it was recently shown that duck rearing is nearly three times more profitable than hen rearing.

—The apple, though the most important fruit of the North, meets with very indifferent success in Ohio, especially in the southern part of the State, owing to destructive insects and heavy spring rains.

—Dr. Dadd, now of Baltimore, says that he believes that the *pleuro pneumonia*, which made its appearance in Massachusetts in 1859, is now prevalent in the State of Maryland.

—"W. F. B." writes to the *Rural New Yorker* that he tried wintering bees in the cellar which was dry, but their breath seemed to dampen the comb and it became mouldy.

—An English paper advertises a vacancy on a farm for an agricultural pupil, and great pains will be taken to give the young man an insight into farming. Terms $1000 a year, and the use of a horse, with hunting.

—Some one writes that the grass known in New England as herdsgrass or timothy, derived its names from Timothy Hurd who introduced it into Rhode Island. The Quaker's called it Timothy, and the world's people Hurd's grass.

—Dr. Jas. R. Nichols, of Haverhill, Mass., harvested 31 bushels spring wheat from one acre, last year. He was offered $4 a bushel for it, but preferred to keep it as a family luxury. He sowed 500 lbs. bone dust and harrowed it in with the wheat.

—By the following operation, says the *Rural World*, a fowl will be dead at once and the flesh white. Open the bill and insert a sharp, narrow blade into the back part of the roof, severing the vertebræ. Then hang up by the legs and let it bleed clean.

—The extent to which the country has been covered with snow the past winter, and the uniformity of its depth, are noted as peculiarities of the season. A more perfect protection from freezing and thawing all over the Middle States was never before experienced.

—We are gratified to learn, says the Illinois *Prairie Farmer*, that some twenty-five counties have already reported examination of students for the honorary and prize scholarships in the In-

dustrial University. The number of competitors in each has ranged from one to twenty.

—The Minnesota State Agricultural Society resolved that "this association is entirely opposed to any encouragement or permission on the part of the executive committee of any gambling or jockeying whatever, in connection with trials of speed at our State Fairs."

—There is, with many persons, a prejudice against white on the legs or faces of horses. Some one has called attention to the fact that Lexington, the most famous thoroughbred stallion, and Dexter, the fastest trotter in America, have four white feet and a white nose each.

—A correspondent of the *Iowa Homestead* advises fruit growers to be very cautious how they apply tar, coal oil, turpentine, salt, &c., to their trees; he has seen trees killed by these so-called remedies for the canker-worm, borer, &c. He uses molasses with the most successful results.

—It is important that every one should know that if hot ashes, containing some fire, are put in a wooden box or barrel containing cold ashes, although they may not come in contact with the cask, they may first set the cold ashes on fire, and then whatever combustible materials are near it.

—Norton Clark, of Turin, N. Y., raised from one acre, ninety-five bushels and forty pounds of yellow, eight-rowed corn. Twenty loads of stable manure were spread and ploughed under, upon a piece of land that had been in grass ten years, well harrowed, furrowed and planted in rows three feet apart each way. Manured in hill with hog manure, and hoed well three times.

—Peanuts are raised in North and South Carolina and Florida, generally on new land, where the trees are girdled preparatory to clearing, and before the ground is ready for anything else. The cost of planting and cultivating is about $30 per acre, and the produce from 100 to 200 bushels. The great labor has been in digging, but this is now much lessened by improved implements.

—A strong extract of blood root, made by cutting up the roots and putting them into spirit, and kept in a bottle, is said to be a cure for laurel and other vegetable poisons in sheep, cattle and calves. Give in doses of a table spoonful to calves and sheep, and repeated as necessary at intervals of a few hours.

—Henry Atwood, Lancaster, Erie County, New York, gives the following as his method of raising wheat on his poorest clay soils. Plough the land in June. Drag well, and cultivate with wheel cultivator several times. After the turf begins to ferment or rot, about August 20, plough again, then drag, draw out your manure and lay it in heaps 12 feet apart along the center of each land, and be careful not to make your heaps too small; then spread evenly over the ground; sow your wheat as soon after spreading the manure as possible, then put the cultivator on again, drag or harrow, and have it all done by the 1st of Sept. I have never yet failed of getting good wheat. A dairy of 20 or 30 cows is very convenient for treating this kind of land.

—In Illinois, one student is admitted free to the Industrial University from each county. The Board of supervisors of Cook county offered, in addition a prize of $30 each to five students who would enter the college at the opening, March 2. On Saturday, Feb. 8th, the examination of applicants for prize and honorary scholars from Cook county was held at Chicago. The *Prairie Farmer* regrets that only two young men presented themselves for examination.

—At a recent meeting of woolen manufacturers at Chicago, it was voted that "Merchantable wool should be the standard for price, and must be well washed, free from tags and all filth, and tied with only what twine is sufficient to hold the fleece compactly together," and that on unwashed bucks' fleeces a deduction of one-half should be made; on all unwashed lots a deduction of one-third. As well fix a standard for "merchantable" butter, and then vote to "shrink" all other lots "one-third." That convention was a "big thing" on prices! Wonder when they meet again!

—After giving the figures of an estimate of the amount of cheese consumed in Europe and in this country, and also of the amount produced, X. A. Willard says, "we must either get in the habit of eating more cheese in this country, or, if we go on producing at the rate indicated by the above figures, both the home and foreign market will be glutted and cheese will not command 12½c a pound. While the price of cheese has been declining, that of butter has been rising; hence if the factory system is continued and more largely developed, the lesson of these figures is rather *to stand by the churn.*"

—The February Report of the Department of Agriculture contains a summary of the answers received from the Southern States to certain inquiries of the Commissioner in relation to farm resources and products. Reports from two-thirds of the counties of Virginia show a decrease of from ten to sixty per cent. in the value of land since 1860, while an advance is noticed in several counties. In North Carolina the general average of depreciation for the same time is put at fifty per cent.; South Carolina, sixty per cent.; Georgia, from fifty to sixty; Florida prices are merely nominal; Alabama, about sixty per cent.; Louisiana, from thirty-three to ninety; Arkansas is averaged at fifty-five per cent.—two counties, Newton and Benton, an increase; Jefferson reports lands "almost for nothing;" Drew, "what creditors please bid;" Clark, eighty to ninety per cent. decrease; Sebastian reports decrease at "ten-tenths," but looking up; Maryland, reports an advance in price from 1860 of ten to fifty per cent., with a few exceptions.

EARLY GARDENING.

AMONG the necessities of every family in the country, a good supply of early vegetables for the table is very desirable. These are not only agreeable to the palate, but contribute to health and comfort. Many farmers seem to think that any extra labor expended on the garden is so much labor lost. But a good supply of early vegetables cannot be obtained in our climate without some extra labor, and some extra manure. Many seem to believe that there is some mystery about green houses and hot beds, which is understood only by professed gardeners, and that they are attended with much expense, and so they neglect them entirely. It is true that green houses and hot beds under glass are somewhat expensive, and that without constant care they will fail to produce the expected results. But a bed may be prepared in which plants may be started to be transplanted at very little expense.

Select a warm spot, sheltered by a building or a tight board fence; throw off three or four inches of the top soil from a space of ten or twelve feet by five or six, and lay it by itself. Then take out the soil to the depth of an additional foot and lay it in a separate heap. Now fill up the hole to the depth of a foot with horse manure, and tread it down well. Then sprinkle over this the soil first thrown out, about three inches deep. Now drive down at each corner a joist. Let the two at the back side stand out of the ground two and a half feet, and the two at the front, one foot or fifteen inches. Then nail on some boards tightly, so that the enclosure on the back side shall be two and a half feet high and twelve or fifteen inches on the front. Prepare some boards long enough to reach from back to front, and extend over one inch at each end. On the back ends which project over, nail on some cleats which will prevent them from sliding down, and you have a cover which may be put on at night, or in stormy weather, and removed in the day time, when the weather is suitable. Bank up the outside with the subsoil thrown out and the work is done. Let it remain a few days, until the manure begins to grow warm; then sow such seeds as you wish, exposing the bed to the sun in pleasant weather, and covering it at night, and you may have lettuce, radishes, cucumbers, cabbages and tomatoes ready to transplant as soon as they can bear the open air.

When they are transplanted, take pieces of board, from nine to twelve inches wide and sixteen inches long. Upon one end of these, fasten with a single nail a piece of lathe ten or twelve inches long. Then place a board on the north side of the plant, inclining over it, and resting upon the lath. These may be removed in the day time in warm days. They afford very good protection against the night air and cold winds. Or frames may be made of thin boards, twelve or fifteen inches square and eight or ten deep, and one end covered with gauze, tacked on.

Any handy boy can prepare all these plant protectors, with a square, a saw, a hammer and nails, in a few hours. The gauze frames may be used later in the season, to cover squash plants and protect them from the bugs. With this simple and inexpensive apparatus, almost any farmer may supply his table with delicious vegetables some weeks ealier than by open field culture.

Early peas, planted in a warm soil, with a good supply of compost containing hen manure, may be brought on to the table by the 20th of June. We have had them on the 15th. The Early York or the Oxheart cabbage will, in this way, give well formed heads a month earlier than in field culture.

Bury some early potatoes in a corner of the hot bed, and when the sprouts are two or three inches long plant them in hills, and you may get good sized potatoes by the first of July.

Now is the time to prepare your lumber; and as soon as the frost is out, dig out the bed and put in the manure. After the plants are removed you may throw out the horse manure and use it for other purposes. It has served to give your plants bottom heat and will still nourish your potatoes or corn.

Early beets should be sowed in the first part

of April, in a warm place, with the ground well filled with fine compost.

Parsnips and onions should be planted early, in a deep, fine soil, slightly covered and well rolled.

Last season, after we had prepared the ground for our onions, we sprinkled on a good dressing of fine soot and raked it in, and then sowed the seeds and had a good crop,—the maggot giving us no trouble.

Last fall we prepared the ground and planted some tomato seeds in hills and covered them with last year's tomato vines. We expect they will start early, and that by means of our plant protectors, they will thrive without being disturbed by transplanting.

Whoever will prepare and sow a bed in this way will soon find a few scores or hundreds of plants pricking through the soil and putting on their green robes, and will watch their growth, and open them to the sunshine, and protect them from the cold air, and give them water and find more pleasure in taking care of them than in any other part of his garden or field.

In watering tender plants it is well to add enough warm water to take off the chill, and to add to each pailful a teaspoonful of sulphate of ammonia or a quart of urine from the house.

WEIGHT OF MANURE.

Over-loading of horses and oxen is one of the principal causes of the thousand ills with which they are afflicted. Especially is this the case with horses, as they move quicker and are more nervous. This over-loading does not always arise from a desire to get along faster with the work, but from an ignorance of the weight of the materials that are being handled.

We have often seen a horse struggling through ploughed ground with a cart full of wet manure behind him, which did not, probably, weigh less than one ton! The same error is often committed in hauling bricks, stones, gravel and sand. Every person who is not acquainted with the weight of such substances, should fill a bushel basket with some one of them, and weigh it, and then ascertain how many baskets his cart will hold. In this way he can usually tell how much weight he is requiring his horse or oxen to draw, and will not be likely to overload them. The following will give him some idea of the weight of manure. A solid foot of half rotted stable manure will weigh, upon an average, 56 pounds. If it is coarse or dry, it will average 48 pound to the foot. A load of manure, or 36 cubic feet, of first quality, will weigh 2016 pounds; second quality, 1728 pounds. Weight to the acre—eight loads of first kind, weighing 16,128 pounds, will give 108 pounds to each square rod, and less than 2½ pounds to each square foot. Five loads will give 63 pounds to the rod. An acre containing 43,560 square feet, the calculation of pounds per foot, of any quantity per acre, is easily made.

THE DISTRIBUTION OF SEED. — "Behold how great a matter a little fire kindleth." A single spark is the cause of destruction to the city. A single seed becomes the source of food for hungry millions. One fact is the counterpart of others.

A quart package of Tappahannock wheat, sent to a county in Pennsylvania, produced a bushel the first year, and five hundred bushels in three years, which was sold for $2000 for seed. Other wheat was destroyed by the fly. This was two weeks earlier and escaped. There are now probably millions of bushels of this variety, producing annually more than one million dollars more money than the deteriorated varieties which it displaced.

For the New England Farmer.

FARMING IN BARTON, VT.

DUTCH CATTLE AND FARM BUILDINGS OF THOMAS BAKER, ESQ.

The pleasant and thriving village of Barton, Orleans County, Vt., was for a few years the terminus of the Passumpsic River railroad, and received great benefit from the business transacted here with the surrounding country, and some thought it would hardly survive the withdrawal of business consequent on the extension of the road to Canada line. But a very superior water power had so attracted capitalists that the village still continues to grow rapidly in wealth and population. Another desirable feature is the co-operation of the village residents with the farmers in carrying out plans and enterprises for the public good. It was this regard for each other's welfare that enabled them so easily to raise three thousand dollars to fit up a fair ground and present its use to the county agricultural society for five years. This society has one executive committee in each town. Barton is represented by Thomas Baker, whose stock and farming operations are worthy of extended notice. During a recent visit there I made a few notes, the substance of which may interest my fellow farmers.

His farm consists of seven hundred acres. He has now four hundred sheep, well bred Merinos, that yield a washed fleece of, about

five pounds each. They are divided into four principal flocks and occupy the lower story of his barns. They are fed from racks around the sides of the sheds, after the pattern described in the "Practical Shepherd." Light is let in through windows and not through cracks, and when the doors are closed the air is warmed by the breath of the sheep so as to be very comfortable. At the time of my visit he was fattening about 100 wethers that were to go to market about the first of March. They are fine wooled, yet valuable as mutton sheep. He has no intention of abandoning wool-growing, but is still improving his flock.

Mr. Baker's dairy consists of twenty-seven cows of good size and thrifty appearance. Many of them were raised on the farm, and appeared to be Devon grades. There is here also the commencement of a herd of Dutch or Holstein cattle, and as there are but few of the kind in this section I will more particularly describe them.

They are in degree connected with the stock of W. W. Chenery of Belmont, Mass., but were bought of Carlos Pierce, Stanstead, P. Q. The color is a clear black, with spots of pure white. The horns black and short. As no scales were convenient, I will give the measurement of the animals—the length being from the base of the horn to the back end of the body.

The bull "Hollandie," 2 years 6 months; girt, 6 ft. 4 in.; length, 6 ft. 8 in.; height, 4 ft. 4 in.

Heifer, "Beauty," 1 year 3 months; girt, 5 ft. 1 in.; length, 5 ft. 6 in.; height, 3 ft. 8 in.

Calf, 2 months old; girt, 3 ft. 7 in.; length, 4 ft.

Cow, 9 years old; length 7 ft., but thin in flesh on account of allowing the calf to run with her the first month. It is now allowed to suck at regular hours.

This cow is a good satisfactory milker, but is now kept solely for a stock cow. These four are all the full bloods of this stock, but nearly all the cows in the dairy will have half blood calves this season.

Mr. Baker has been breeding the White Chester hogs and is well satisfied with their early maturity and great weight. He has four sows that are likely to breed this year.

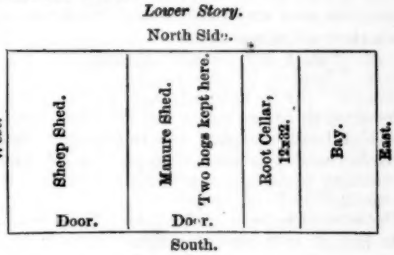
This stock with the addition of six oxen and several horses requires the constant attendance and all the time of one man.

The large quantity of hay for the cattle was of excellent quality, which accounts, in some degree, for the fine appearance of the stock, yet a root cellar twelve by thirty-two feet, well lathed and plastered, under the barn floor, now partly filled with turnips, might be considered a valuable auxiliary to the usual winter feed.

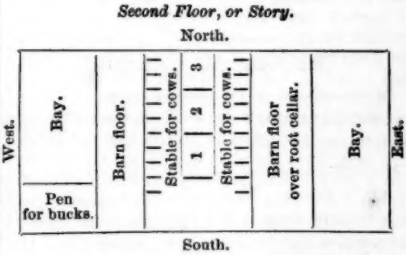
Our winter has been very steadily cold, the thermometer constantly going below zero and sometimes as low as 35°; yet, Feb. 19th, these turnips were not frozen enough to interfere with cutting and feeding; indeed but slightly touched with frost. This I regard as a valuable experiment for New England farmers, for in the minds of many there is a greater difficulty in preserving turnips than in raising them. I think if plenty of turnips were raised the expression, "spring poor" would soon be obsolete, and the condition of cattle indicated thereby would be unknown.

The buildings to accommodate this stock consist of one barn 32×100, and several smaller ones that in the aggregate more than equal the main one. The large barn is on level land and two stories high, the second story being entered by embankments to each barn floor. It is double boarded outside with one-inch boards, and the stables are lathed and plastered on the north side, and single boarded inside. The following diagram will show the arrangement of both stories of this barn which is 32×100 feet.

Lower Story.



Second Floor, or Story.



Figs. 1, 2 and 3 are box stalls; the first was occupied by the Dutch cow; 2 by three calves, and 3 by the Dutch bull and heifer, at the time of Mr. Jameson's visit.

Every stable and sheep shed was so well finished that the breath of the animals or animal heat would make the temperature above freezing, and the animals looked better than those belonging to farmers who advocate open sheds and free ventilation.

Mr. Baker now employs four men preparing to build a house that in size and convenience will correspond with the farm. In choosing a site he has avoided a common error, which is to place the house very near the highway, allowing no room for drive, lawn or landscape embellishments. The place chosen is a slight elevation near the barns and perhaps twenty rods from the road. In front is a depression

that can be easily transformed into a beautiful pond and fed by a large spring near by. Such a mansion approached by a drive that curves around a pond, with other additions that readily suggest themselves, must complete a perfect picture of a rural home. At the season of mid-winter it is best perhaps to leave the crops and farm management for another communication. Z. E. JAMESON.

Barton, Vt., Feb., 1868.

For the New England Farmer.

THE SAVING AND APPLICATION OF MANURE.

Some of the correspondents in late numbers of the NEW ENGLAND FARMER appear to be divided in opinion whether it is best to cover manure with the harrow or the plough. This depends upon the nature of the soil, whether high or low, wet or dry, according to my observation and experience,—and "experience is a stern old school master."

In 1863, a dry summer through the first part, I hauled 100 cart loads of barn yard manure, partly compost and partly green dressing, on to two and a half or three acres of high land, ploughed ten inches deep the previous fall. It was spread and harrowed in according to the best of my ability, and planted with 13,000 hills of corn about the 20th of May. The corn came up and flourished finely until the first of July when its progress ceased; the corn roots having penetrated through the coat of manure into the barren subsoil beneath, brought up on the surface of the furrows by the deep ploughing the previous fall, and farewell corn! It did not pay for harvesting.

On the other hand, some twenty years since, I saw stable manure drawn from the stables of Exeter, and ploughed in on the low wet fields of a neighbor's farm, sufficient to make mine into a garden, had it been fortunate enough to have received such good treatment, yet with little or no benefit to him, because he did not use the harrow instead of the plough. In case of my worthless crop of corn, I should have used the plough instead of the harrow, as I have never failed to do since, ploughing in the manure to about the depth of six inches.

As manure is the foundation of all farming with us, the best farmer in the country can do nothing without it, and but little with it unless he knows how to apply it. But it can be applied neither right nor wrong till it is saved or accumulated; for I ignore the word *make* as applied to manure; believing it is a philosophical axiom, that it is not in the power of man to create or annihilate a single particle of matter. So the only thing that can or need be done, is to furnish absorbents to save all the liquids and volatile gases that furnish food to field crops that come with the domain of the farm.

I have acted upon this principle for many years with manure from the cattle in winter; but, within two years, I have learned that my duty has been only half done. During the latter time I have housed five cows and a yoke of oxen every night through summer, and furnished wash from the roadside for their bedding. Thus a large amount is saturated with urine every night, when the stock return from the pasture with full bellies of green juicy feed. The result of which is twenty-five or thirty loads of manure nearly twice as strong as it would have been if exposed to the sun and rain in the barnyard. This manure is drawn from the barn cellar in the fall, and ploughed in on old ground, or harrowed in on newly broken up land. Exposed to the frost and rains of winter, it gives the best crops the following year. M. J. HARVEY.

Epping, N. H., 1868.

REMARKS.—Had not "the barren subsoil, brought up on the surface of the furrows" as much to do with the failure of your corn in 1863, as the manner in which the manure was applied?

For the New England Farmer.

THE BRAHMA FOWLS.

WHY I KEEP AND HOW I MANAGE THEM.

I prefer the Brahmas for the following reasons:—They are hardy, and easily raised early in the season, and such chickens sell well. They are large and bring more per head than the smaller kinds. They are very quiet, peaceable and domestic, and will *handle* better than any breed I am acquainted with. If brought out early in the spring the pullets will come to maturity and commence laying in the fall, and if well managed they will lay all winter, while eggs bring good prices, and be ready to sit and bring out a new crop just when eggs are lowest in the market. Their bodies are so large that they do not seem to chill through in cold weather like the smaller Leghorn and Spanish fowls. They are excellent sitters, and will cover more of their own eggs than any of the small kind.

The first of last December I had about forty pullets, one-fourth of which had commenced laying. Since that time I have reduced the number to thirty. In December I had seventeen dozen eggs, in January forty-three dozen, and in February forty dozen. Have set five broods, of which one has hatched.

I have a room in my barn cellar 24x58 feet, with cellar wall on three sides. On the south, I have board siding, well lighted by glass windows the whole length. This siding is made of thin boards in two pannels between each pair of posts. The upper one is hinged to the sill and opens inward, and can be fastened up in summer out of the way. The lower pannel is keyed in between the posts and can be taken down in summer and used for hen coops and pig pens, or it may be packed away for

winter. In this room the hens eat, wallow, sing, cackle, and lay during the day, and at night they go to a smaller underground room where they roost.

Every morning they have a pail of dough, made of one-third each in bulk of Indian meal, wheat bran and ship stuff or fine feed. This is generally eaten by noon, when they are fed with a few fresh-boiled potatoes and a small quantity of beef scraps. They have a feeding of corn two or three times a week, and oats and pounded oyster shells are constantly before them. They have plenty of water carried to them, warm, once or twice a day. I have had no sick fowls and have fed no pepper or drugs of any kind during the winter. If any of the hens want to sit earlier than is thought advisable I put them in a room by themselves with a rooster. After a few days they commence laying again.

For their nests I use soap boxes partly filled with sand and covered with fine straw or hay. When I am ready to have them sit, I move them, in the evening, in their boxes, to a room used solely for a sitting room. If they continue to sit for a day or two on false eggs, I put good ones under them in the evening. Hens just beginning to sit can be handled much better in the evening than in other parts of the day. But after they have been sitting a few days, if the weather is very cold, they may be taken off and fed with warm dough, and after a few minutes exercise, put on the nest again. I keep oats in the sitting room all the time.

After the eggs have been under the hen nine or ten days, they may be examined in the evening by holding each egg before a bright light, when the unfertile ones may be taken away. They will look light and semi-transparent, and never will hatch, but are as good for other uses as fresh ones. Those having germs in them will be quite opaque, and ought nearly all to hatch, although the embryo chicks will sometimes die in the egg.

When the young chickens begin to hatch, the box is taken to another room where they will not disturb the other sitters. As fast as the chicks are strong enough, they are carefully taken away from the hen and kept in a basket, in a warm room. In a day or two they commence to pick, when fine cracked corn is given them, in small quantities. By the time they fairly learn to eat they are fed and watered several times a day. I feed very little fine meal dough, as I think it is apt to cause gapes. I feed coarse meal, mixed with sour milk, and give them cheese curd as often as they like it.

Chickens thus kept from the hens and well cared for, will have fewer crooked-backs and breast bones and crushed hips, and probably fewer lice.

When the weather is suitable and the ground is warm, they are allowed to be out of doors in the middle of the day; but early chickens should be kept indoors most of the time, where they will be dry and warm and away from danger by hawks and rats. A sunny room in the south side of the barn, where it is comfortable without a fire, is a good place. They should have a variety of feed and plenty of fresh water. A good way to give water is in a plate with a bowl inverted in the plate. The bowl prevents them from wetting themselves in the water, as they can only get at it with their bills.

A sod of tender grass or a bone with a little fresh meat on it, will give them very pleasant employment, as often as it is convenient to furnish either. During the growing and fattening season I find cracked corn, with the fine sifted out, an excellent feed before they are old enough to eat whole corn. If fed dry, they must have plenty of water at all times. Fine meal, if mixed with coarse wheat shorts, is good for a change, especially if wet up with thick milk.

They ought to have a comfortable place where they will learn to go every night, after they are old enough to take care of themselves, and as soon as old enough, should be put on roosts a few evenings in succession, after which all they will want will be plenty of good feed till large enough for market.

Children and women can do much of the work of taking care of poultry, as well or better than men. I am well satisfied that corn and milk fed to poultry last season, paid much better than that fed to swine. And I think large, handsome white Brahmas are quite as desirable stock to show your friends as Suffolks or White Chesters. A. W. CHEEVER.

Sheldonville, Mass., March, 1868.

CHEAP LAND IN MASSACHUSETTS.

The following letter was written by J. A. Barclay, of North Spencer, Worcester Co., Mass., to the New York Farmers' Club. The facts stated we believe are substantially true of other sections of New England:

I often read in your reports descriptions of places, accounts of farms and farming lands, the great advantage to be had in some far-off place, where, away from home, from friends, from all the pleasures and satisfaction to be had in a civilized and enlightened society, in some nook or corner, or in some desolate God-and-man-forsaken place, the great desideratum can be had—cheap land. Did it ever occur to you that land and farms could be had at a very low price in our own happy New England. We often hear of land in the South and West that can be bought for from 12½ cents to $5 an acre, and express our wonder and astonishment at so small a price.

Having recently seen farms sold in this vicinity, I could not help asking myself the question, what would be the price per acre for the farm after deducting a fair value for the buildings and the cost of the other improvements. I know a farm that has been sold for

$2800; contains something more than 200 acres, a large two-story house with two ells, all finished in the best manner, a good horse barn, with sheds, carriage-house, hoggery, &c.; a barn of sufficient size to hold 50 tons of hay; has cut the past season between 40 and 50 tons of good hay, wood sufficient for use, a good supply of choice fruit; well fenced, said to be 900 rods of well-built stone wall on the farm; a good soil, buildings good, neat, nice, and almost as good as new.

Now, then, does the land of this farm cost more or less than land at the West, or at Vineland or Hammonton, or any of those other places we hear of so much. We have heard a great deal about cheap lands in other places, where that is all they can claim. Why not let it be known that we have cheap land, with many other advantages—good buildings, good roads, good schools, good markets, and all those other advantages that might be expected in connection with these? The sale of this farm is not an isolated one. I know of other farms that can be bought for less money than the building would cost, within 10 miles of the best market in the State. I know of no better place for a man of small means who wants to go to farming than Worcester county.

For the New England Farmer.

SELECTION AND MANAGEMENT OF WORKING OXEN.

A good ox should have a long, lean face, and bright hazel eye, which show capability to receive instruction and disposition to obey it. Large nostrils denote the capacity of an ox to work in a hot day. Very large horns at the base denote laziness. Full breast, straight back, wide ribs,—by which is meant ribs that round out nearly as wide as the hip bones,—and wide gambrels, denote strength. Straight knees, broad toes, pointing straight forward, show an ox can travel on hard roads or pavements. They should be well matched, especially in disposition and speed.

The farmer who has a pair of oxen, answering this description, has a good team.

The next thing is a good teamster. The better the ox, the easier he is spoiled by a man who knows not how to drive. The teamster should have judgment in loading. Some teamsters know no better than to think an ox can draw anything until he tries him. An ox should never be overloaded to begin with. He never should know how much he *can* draw, but always have such confidence in his driver, as to think he can draw anything he may ask him to.

A good teamster will have a name for every ox, and no two in the same team, should be called by the same name; nor should he ever speak one word that has no meaning; but be sure when he calls an ox by name, to make him understand, and also to make him mind what he says.

When breaking a new team, the best way I ever found to make them know their names, is, when I call "Star," or "Broad," or "Bright," or "Buck," to just touch the one I speak to, with a spur. By that means the ox will soon know that he is meant, whenever he hears his name distinctly pronounced.

The driver should also have one particular word to start his team with. "Come boys," I ever found the best word to start a heavy load with. Some seem to think, when they are driving a team, that they must work the whole time either with their tongue or whip. It would be a most desirable thing for such to learn, that when his team are doing *just right*, to keep both tongue and whip *perfectly still*. What would you think of an officer who when his men were marching as handsomely as possible, should keep swinging his sword and jabbering incessantly, without meaning.

All the words needed in driving, are very few. I think the following are sufficient: "Come," "Haw," "Gee," "Whoa," "Back." These, properly used, are all that are needed. Much talk makes confusion.

I have known some men halloo and bawl all day long, and make themselves hoarse, who could not at night give any meaning to one word in ten they had said. Such would do well to first learn *themselves*, before they *try* to teach their *oxen*.

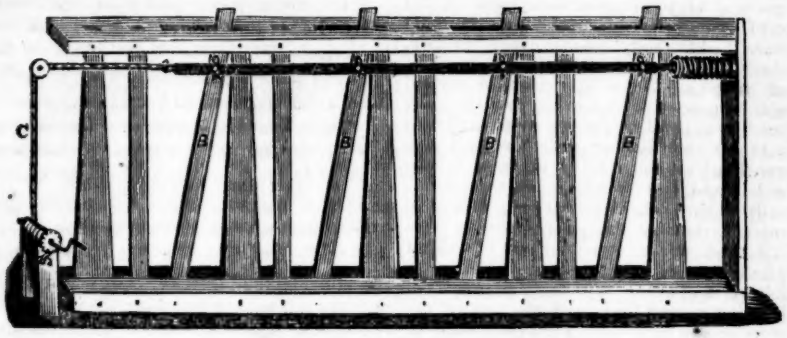
A good teamster will make his cattle love him. This can be done only by constant kind treatment; such as carding, stroking their faces, and occasionally breathing in their nostrils. This last, is the best method to find out the disposition of an ox. When you have breathed a few times in his nostrils, if he is kind he will hold up his nose, otherwise he will catch it away and perhaps toss a horn at you. In short, make yourself sociable with them and they will amply repay you for your attention and kindness. Never strike an ox, unless compelled by obstinacy; and by proper management that necessity will occur very, *very* seldom.

ASA G. SHELDON.

Wilmington, Mass., Jan. 27, 1868.

REMARKS.—The writer of the foregoing article is familiarly known in Massachusetts as "The Wilmington Farmer," whose autobiography has been recently advertised in our columns. To a natural "eye," or intuitive judgment or instinct, which seems essential to a breeder or manager of stock, Mr. Sheldon adds the experience of a long life in the practical use of oxen, both on the farm and by way of railroad and other large jobs of excavations.

—Mr. Charles M. Hale, of Montpelier, Vt., has a sheep, which in the last twenty-two months has given birth to nine lambs, and all, with one exception, alive and flourishing.



COMBINATION STANCHIONS.

The above cut was engraved for the FARMER some years since as an illustration of an improvement in tying up cattle, devised by Wm. D. Brown, of Concord, Mass. A is a strip of iron one inch and a half wide, attached to the movable stanchions B B B B, by half-inch bolts of round iron with spring keyes; C a rope passing over a fixed pulley and attached to a shaft with crank and follower or catch. Mr. Brown said that if any one or more of his thirty cattle fail to have their heads in the proper place at the time of fastening the others he could slip out a key and bolt and put in the stragglers at pleasure, or any one may be loosened in the same way at any time.

We have recently received from Mr. O. H. Phillips, West Glover, Vt., a description with drawings of a similar, but perhaps more simple plan which he had adopted. Instead of the iron strip, he uses a bar of wood to which the movable stanchions are fastened by wooden pins. Instead of the rope, pulley and crank, he attaches a stick or lever to one end of the long bar, with one end of the lever fast in a staple or socket in front of the stanchions at such distance that by moving the long end of the lever, which projects into the stable, the stanchions are all opened and shut at one motion. When closed, the long end of the lever is held firmly in place by a hasp, slot, staple or other fastening, which also, of course, fastens and holds in place all the stanchions.

DISSOLVING BONES.—The cheapest and easiest way I found was to take a deep box, barrel, or hogshead, the latter I like the best, cover the bottom about two inches deep with ashes and lime mixed, about one part lime to two of ashes; the lime should be newly slaked and mixed with the ashes, both dry, then put in a layer of bones, then two or three inches of the lime and ashes again; fill up in this way to about eight inches of the top, then fill out with clear ashes, or the compound, and then wet it gradually until it is thoroughly saturated, but not so as to drain; let it stand at least six months, the longer the better; when wanted for use take it out, fork it over and pick out all the bones that are not soft and save them for the next batch, and then pulverize and mix the ingredients well together, and you will find it one of the strongest and best fertilizers in use.—*Cor. Am. Institute Farmer's Club.*

FEEDING STEERS IN KENTUCKY.

At a recent meeting of the Lexington, Ky., Farmers' Club, one of the members made the following interesting statement of his manner of feeding stock for the market. He estimated the cost of his steers at $95 per head when three years of age, and at 1550 pounds each live weight, and that at present prices, 7½c per pound, they are worth $116.25 per head. To this may be added the profit on hogs which follow cattle when fed on corn. Among the advantages of his system of farming, he mentioned the improvement of the farm over the ordinary mode of culture, and the small amount of labor required. He said he employed only one man and a boy, with one pair good horses, and one yoke of oxen, and found himself more troubled to find work for the man and boy than to keep up his work.

I have eight hundred and twenty acres of land on which I operate. I always keep on hand one hundred and eighty cattle at a time, winter and summer, in three different lots and

ages—sixty in each lot, one of calves or yearlings, one of yearlings or two-year-olds, and one of two or three-year-olds; or in other words, I buy sixty calves every summer, and sell sixty fat cattle. Of the 820 acres of land, there are 700 of it in grass, so you will see I have no difficulty in grazing them. I know that many of you are ready to say I cannot winter that number well; we will see. Seven hundred acres being in grass, I have one hundred and twenty in cultivation. I usually cultivate about thirty acres myself in corn, and rent out thirty acres more to some of my neighbors for corn; for rent of which I get half of the corn in the shock, which gives me 45 acres of corn. The other sixty acres of cultivating ground I rent and get half of the proceeds; and in addition I cut twenty-five or thirty acres of grass, timothy and clover mixed, cut when the clover is ripe, timothy green. I do not like ripe timothy hay for cattle—would rather have straw. You will now perceive I have 40 acres of corn, about twenty acres of wheat straw, from five to ten acres of oats, and twenty or thirty acres of hay all told, to winter the 180 cattle. Now please bear in mind that I graze eleven months in the year; my calves or yearlings as you may call them, (for they commence as calves but get to be yearlings before the year is out;) they run on good grass with what hay they will eat until the 15th day of March. They are then put in a lot and are still fed on hay with addition of shelled corn or oats once a day. The yearlings, or next older lot, run on grass with wheat straw when there is snow on the ground or very cold weather; and the 20 acres of straw is as much as they will eat up to the 15th of March; they then go to lot and are fed hay and about two bushels and a half of corn apiece. The next lot, intended for market in July, run on good grass and feed on hay in cold weather until the first week in February.

Then I commence feeding them corn, five shocks per day, with a barrel to the shock, but still running them on grass until the 15th of March when they go to the lot, still feeding the same amount of corn. You will perceive now that all my stock go to lots on the 15th of March and remain twenty-five or thirty days. I always turn to grass from the 10th to the 15th of April. But it must be distinctly understood, to winter 180 cattle on that amount of provender, they must have a full supply of blue grass.

MASSACHUSETTS STEERS.—Mr. Joseph Bean of Putnamville, Danvers, Mass., has a pair of Grade Durham and Native Steers three years old next April, raised by himself, that weigh 3200 lbs. One of them girts seven feet, the other seven feet and one inch. They are well mated and well trained. Mr. Bean hauled his hay in with them last season.

TUMOR FROM A COW'S THROAT.

A few weeks since a gentleman from Essex, Mass., left at this office a tumor which had been removed from the throat of one of his cows. The memorandum which accompanied it has unfortunately been lost and the name of its owner is not remembered. According to our recollection of his statement, the tumor was attached to the upper part of the throat, and rested upon the tongue. As it enlarged it prevented the animal from swallowing, to such an extent that she pined away, lost strength, and must soon have died. The tumor was removed by extending the jaws of the cow with an iron ring, through which the operator succeeded in cutting off the tumor, which weighed one pound. After its removal the cow was able to eat, gained strength and flesh rapidly, and is now in good condition.

By most who saw the tumor at our office it was thought to be fibrous; a class known as "non-malignant," and harmful mainly in a mechanical way, as by impeding the functions of some important organ. But anxious to ascertain its true character, and not being posted ourselves in relation to the nature of tumors, we submitted this interesting specimen to Dr. Ephraim Cutter, 13 Pemberton Square, who makes a specialty of throat diseases in human subjects, and who has successfully removed tumors, in some cases where they had deprived the patient of the use of the voice. One of these he exhibited to us, which though much smaller than that from the cow, looked ugly enough.

The Dr. states that the physical characteristics of this tumor, under the microscope, are those of a cancerous nature, and that it is by no means improbable that it may grow again.

CHEAP FERTILIZER.

For several years past, Mr. L. E. Metcalf of Franklin, Mass., has used, as he recently informed us, a compost of salt, ashes and plaster on all his farm crops with results so entirely satisfactory that he feels safe in recommending it to others. Without being very exact in weighing or measuring the ingredients, he intends to mix one part of salt with two parts of gray rock plaster, and then adds about an equal bulk of wood ashes. The mass is then thoroughly mixed, and allowed to stand a few days before using. If applied alone, about 300 pound are spread upon the land,

whether cultivated or in grass; and, in case the land is planted, a little more is put in the hill. If other manure is to be used upon the same land, the compost is worked into the manure and both used together. On land on which plaster has no perceptible effect when applied alone, this compost proves as beneficial as on land where plaster works favorably, in consequence, as he believes, of its combination with the ashes. Mr. M. prefers this home-made compost, to any of the commercial manures. He is particular about the kind of plaster, and says the white has little if any agricultural value.

For the New England Farmer.

TIME FOR PRUNING.

I have lately made some investigations on the question of "The proper time for Pruning;" have consulted many volumes of the NEW ENGLAND FARMER, (Monthly,) as well as a large number of authors on fruit culture, and were it not for the substantial reasons given in your editorials on the subject, I confess I should be at a loss to know what is fact or truth in the case. As I have the works alluded to open before me I will make some extracts, remarking, however, that the first seems to me to be the correct view, and to accord with the teachings of your paper.

Cole's American Fruit Book, at page 57 says:—

"Slight pruning, in which very small limbs, or dead limbs of any size, are removed, may be performed when most convenient, at any season. Moderate pruning should be done in June, July or August, though it will answer very well till December. If trees are pruned in July, August, or September, the wood will become hard, sound and well seasoned, and commence healing over; and it is not material, otherwise than for appearance, whether it heals over the first, second or third year, as it will remain in a healthy state. We should prefer October, November, or even December, to the spring, which is the worst season."

Next comes remarks on page 80th of the "American Fruit Culturist," by Thomas, published in 1867. He says:—

"Many cultivators have been misled into the opinion that early summer is the best time to prune, from the fact that the wounds heal more readily. Pruning after the tree has commenced growth has a tendency in nearly every instance to check its vigor. . . . . As fresh wounds always render trees more liable to be affected by intense cold, quite hardy trees only may be pruned any time during the winter. On those inclining to be tender, the operation should be deferred till towards spring."

So much for the latest information. I next quote the one most remote, "Thatcher's American Orchardist," published in 1825. At page 67 it is said:—

"The most proper season for pruning fruit trees, unquestionably is when the sap-juice is in active motion toward the extreme branches. In our New England climate, we have the clearest indications that the sap commences its circulation about the 10th of April. From this period to about the last of May, whether the buds are just opening, or the blossoms are fully expanded, the pruning should be accomplished. It would, for certain reasons, however, seem advisable not to delay the operation after the middle of May, as the branches are then so charged with a full flow of sap that the bark would be apt to peel, whereby unseemly wounds might be left, and canker induced."

"Kenrick's New American Orchardist," published in 1835, page 48, says:—

"For moderate pruning, which alone is generally needful, June and July and during the longest days of the summer, is the very best time, for wounds of all kinds heal admirably at this period; the wood remaining sound and bright, and even a tree debarked at this season recovers a new bark immediately."

The last quotation I make is from a small, but valuable work, entitled "The Garden, &c.," by D. H. Jaques, published in 1866. At page 71 the author says:—

"When the object of pruning is to promote growth or improve the form of the tree, the operation is generally performed in the winter or early in the spring. Some, however, recommend pruning in May and June." T. W. S.

Boston, Mass., 1868.

For the New England Farmer.

STRETCHES IN SHEEP.

Much has been said and written from time to time about *stretchers* or *stretches* in sheep. That it is a bad disorder and occasions a great loss to sheep owners, none will deny; but the cause and the remedy are not so well understood. Some writers attribute it to costiveness, the result of improper food, lack of roots and other laxative diet, while others contend that it is caused by worms in the intestines, producing a stoppage in the excretory passages. I have no doubt both are correct, as the symptoms of disease are the same in either case; so much so that I very much doubt if the most experienced in such matters can ascertain to any degree of certainty the real state of the case, without an actual examination after the death of the diseased sheep.

As to the remedy, which is really the main thing, no two writers agree, and in practice all prescribed remedies more or less fail; so much so that a large number of sheep die annually from this disease, while, as a rule, the

best conditioned and apparently the most healthy sheep are most liable to its attacks.

Having had the care of sheep somewhat extensively from my boyhood, if my experience is worth anything to the public, I most freely give it.

As to the cause I am somewhat uncertain; but should give it as my opinion, that a plenty of green fodder, such as bright, early cut clover hay, ruta bagas, or potatoes, with a free supply of salt and wood ashes, will prove an almost infallible preventive; and as the old proverb says, "an ounce of preventive is better than a pound of cure," I would recommend first in all cases the preventive. I once knew a minister who had a sick cow, and he applied to an old farmer for a remedy. The old farmer with a sober face told him that a certain weed grew on a neighbor's intervale, that given freely to the cow, would cure her in a few weeks. When asked to name the weed, he replied "clover hay." The minister followed the prescription and his cow got well, and he ever after praised clover hay as a curative agent.

But if a sheep does have the stretches, what is to be done? Some tell you to give castor oil—very good; some say oil and spirits of turpentine—sure death; others use a strong decoction of thoroughwort (boneset) which is an excellent medicine, and easily procured, as it grows on all low wet ground. But my remedy, and one that never yet failed me, when tried in the first stages of the disease, is tobacco: Take a piece of plug tobacco, as large as the thumb to the first joint, put it in the mouth of the sheep and hold up its head until it is eaten. Sometimes the sheep will eat it with avidity, but not often. If one does not eat it readily, don't give it up, but stand by and hold up the head gently, and there will be no trouble.

The first practical knowledge I ever had of this remedy was in 1843. I sold some sheep to J. H. Lovejoy, of Albany, N. Y., and was to deliver them in a few days. Soon after I sold them, one of them was taken sick and I was afraid it would die; so I thought I must try and doctor it. I was but a boy; my father was gone, and I hardly knew what to do; but I happened to think that I once heard an uncle tell of giving a sick sheep some tobacco, and it cured it. So I concluded to try it, and in an hour's time my sheep was eating as well as any of the rest, and from that time to this I have had sheep taken with that disease, and used no other medicine, but have never yet lost one. In 1864, this disease was very prevalent all through this section. The previous season had been unfavorable for hay, and much of it was hurt or badly ripened before it was cut. One of my neighbors told me that three of his sheep were sick—the best he had—and wanted to know what to do for them. I asked him how long they had been sick; he told me one of them had been sick one week, and the other two were taken the day before he came to me. I told him to give them all some tobacco, and how much to give them; but remarked that the one first taken will die, while the others will come out all right. The next day he told me the one you said would die, is dead; and the other two are well, and went to eating hay in an hour from the time of giving the medicine.

Yesterday morning I found a nice sheep stretched out, and kicking. Its nose was dry, ears drooping, neck extended, and every appearance was indicative of great pain. I made her take a quid of tobacco, and in two hours she was chewing the natural cud, and apparently well. I do not advise folks to go to chewing tobacco because it is good for sick sheep. Tobacco is a rank and deadly poison to the hog. GEO. H. BROWN.

Mason, Me., March 11, 1868.

For the New England Farmer.

WORKING A POTATO FIELD.

In the fall of the year I turn over a piece of grass land, with a swivel plow, laying the furrows all one way. If on a hill side, the furrows are turned up hill, so that the after cultivation will bring it about where it was before. After the furrows have dried a few days the ground is worked over with a cultivator, which pulverizes the soil about four inches deep, or one-half the depth of the furrows.

The ground is then smooth enough to cart over, and is ready to receive the manure, which is drawn on and evenly spread any time during the winter or spring, as convenient. If hauled on while the ground is frozen, it will be easier for the teams and much packing of the soil is prevented.

After the ground is well settled in the spring, it is again worked over with the cultivator, and the manure is well mingled with the soil. A horse plow is then used to make furrows about four inches deep and three feet or a little more apart. In these furrows, pieces of potatoes are dropped about fourteen inches apart, rather carelessly and quite rapidly, not minding whether they fall one side up or the other. The cultivator is then run between the rows, and the potatoes are well covered; much better than if done by a plow, and a great deal quicker than if by a hoe.

As soon as the weeds begin to show themselves, the cultivator, which is also called a horse hoe, having the outside teeth reversible, is run between the rows, with the teeth set to turn the dirt from them. After two or three days it is run through again, to finish any weeds that escaped the first operation. Just as the potatoes begin to break ground, a garden rake is worked rapidly back and forwards over the drills, nearly as fast as a man would walk. This kills what weeds are in the drills between where the horse hoe went. After potatoes

begin to break ground, if the weather is warm, they show themselves pretty fast, and within a week from the time of raking over the drills, the field will need the horse hoe to be run through again, to keep the ground light and warm, and to prevent any weeds from getting a foothold.

With an old fashioned cultivator that will tear up and cover up so many hills, it was quite necessary to follow immediately with the hoe, and patch or mend the hills or drills. But with a good horse hoe, like F. F. Holbrook's, with reversible outside teeth and expanding arms, a field may, and ought to be worked out every few days, going but once in a row at time. The hand hoe need not be used much, except to cut out weeds from the drills where the horse hoe does not reach.

As the roots of the potatoes extend, the horse hoe is contracted, till the last time, when it is run through with the arms and outside teeth taken off, using the middle tooth only. At this time the hand hoe is used to finish up the dressing for the season; after which the vines ought to mostly cover the whole ground.

If the potatoes are not dug till the vines are quite dead, much time and some backache can be saved by raking them off with a fine garden rake. If the ground has become somewhat hard or weedy, the horse hoe may be used once more with great advantage, by turning the teeth inward and running them close up to the drills. This will leave but little soil to be moved by the hand hoe or hook, while hauling out the potatoes.

After the potatoes are off, the ground is then worked over both ways with the cultivator to the depth of five or six inches, when it is in the best condition to receive grass seed, which may be sown either in the fall, if not too late, or in the following spring.

Brother farmers, this is my method of working a potato field. If you see anything new or good in it, do not let *habit* keep you in the old ruts. A. W. C.

Sheldonville, Mass., Jan. 18, 1868.

For the New England Farmer.

SUGGESTIONS FROM EXPERIENCE.

A Monkey Wrench.—I was working with a good, adjustable (monkey) wrench, once, with a young man, who seemed quite struck with the ease and dispatch with which we took off nuts from bolts, and got a wagon to pieces.

"Have you not a wrench like this at your house?" I asked.

"No—o!" he replied, with a shamed laugh.

"What do you do when you want to turn a nut on a bolt?"

"We take a *harmer*," was his answer.

Repairing a Carriage.—I was at Mr. B.'s shop in a hurry for some forging which he could not attend to at once, as a carriage belonging to a good farmer needed some repairs; and he had promised to have it ready for him at such an hour.

We soon arranged to have my work taken hold of, and the few screws needed in his were put in, and nuts tightened at the same time. I thought then if my good friend should sell one of his railroad shares and fit him up a tool shop, he would be a great gainer.

As soon as the carriage was finished the owner happened in. "Is my job done," he asked, drawing out his wallet.

As Mr. B. named the price, we exchanged glances, and were only able to keep our faces straight till the customer was gone.

Plastic Slate.—I have told you of my having great esteem for the new compound—*coal tar and ground slate.* I have some mixed, on hand, all the time, ready for immediate application. It is a handy thing in a neighborhood! A neighbor had a long eave gutter. The rain came down sadly where it was butted together. The joint was originally covered with sheet lead tacked down, which had become raised up, and was worse than nothing. This was removed and the leak smeared with the plastic slate, and then a strip of double felt tacked over and that, likewise, covered with the slate and now the water passes along.

Another neighbor had a leak through a long strip of sheet lead, which covered the joining of two roofs. My ladle and brush and strip of paper went there, and gave great satisfaction. I think lead in such places should be put on in moderate lengths. Too long a piece varies with the heat and cold, and cracks.

Another case where I lent the ladle pleased me still more. A laboring man, who lived in a hired house, wanted to buy a piece of inch and a quarter lead pipe for a sink spout. I happened to have it; but asked him to tell me the whole story about the old one. He said, it had frozen up and burst the winter before, and they had tied rags about it, and had water running across the floor, and no end to the bother with it. I told him not to buy a new pipe, but take a light hammer and try to close up the crack in the pipe, and then put some warm plastic on a bandage and tie it firmly around it. He was glad to be relieved of the expense of a new pipe, and easily repaired the old one. Wm. D. Brown.

Concord, Mass., Jan. 1, 1868.

Remarks.—The above article has been on hand several weeks; but, like good wine, it loses nothing by age.

—The students at the Agricultural College at Hohenheim, at Wurtemburg, which was established in 1818, occupy rooms provided for them, and board at a restaurant connected with the institution, calling for what they want, and paying for what they order.

EXTRACTS AND REPLIES.

THE WOOD PILE AS AN INDICATION.

We observed not long since in an almanac printed in our own beloved State the following: "You may always know a good farmer by his wood pile." We were led to inquire why, and in what respect, the wood pile is an index of the good farmer? Why not say, you may always know a good carpenter by his woodpile? Why not the saying hold true of the blacksmith, the merchant or the clergyman? Go through our State, for instance, and see what ratio the wood pile bears to the "good farmer." Do you think, dear reader, that you will invariably find the good farmer where you find the woodpile of several cords? If you do, we shall beg leave to disagree with you.

We will imagine a large farm with a wood pile of at least fifteen cords. Here, you will say, we shall find a good farmer. But let us take a look around the farm. It is winter. Go into his cellar and see if he has the beets, turnips, cabbages, squashes, pumpkins, and in fact all kinds of vegetables that a good farmer ought to have; but, to our surprise, we may find none of either sort. Corn, beans, potatoes and barley constitute the whole that is raised by this "good farmer."

Go to the barn, (but don't let him know you are going, for appearance sake he may get there first,) and take a look there. Now, this "good farmer" will, of course, have all things in trim order. But what is that? Why, the sills are covered six inches deep with manure. Look! that partition that got broken down, instead of being replaced is thrown into one corner. Ah! what a current of wind rushes through! I think it must be on account of that window being left open. What is that we see in the top of yonder snow bank? Well, it looks like the top of his ox cart. But, never mind all this, take another look at his woodpile, which contains at least fifteen cords, and set him down as a "good farmer." DOWN EASTER.

Wiscasset, Me., 1868.

REMARKS.—The merciful man is merciful to his beast; out of the abundance of the heart the mouth speaketh, and many similar aphorisms are predicated of the general fact that character, if we may so call the governing principle, is indicated by single acts. Napoleon Bonaparte was as great in making roads as in leading armies; Washington was a good surveyor, and a good farmer, as well as a good general. There may be exceptions—and it is even said that exceptions prove the rule—but we still believe that a good farmer, if not *known*, is at least indicated by a good wood pile; and we should certainly be disappointed to find a large and neat wood pile in connection with such cellars, stables and snowbanks as our correspondent describes. Straws show which way the wind blows; and notwithstanding Down Easter's protest, we must caution the young in particular,—as a little shows what a good deal means,—to look out for single acts! Nine people out of ten will judge by the "wood pile," or by any other single indication of the inner man.

BRAHMA HENS.

In September, 1866, I got of Dr. Charles Clark, of Montpelier, Vt., a Brahma rooster and pullet. For the year ending November 14, 1867, the pullet laid 128 eggs, hatched and reared at three sittings thirty-seven chickens, leaving seventy-nine eggs. I have sold $20 worth of chickens, dressed eight for my table and have now twelve which I value worth $12. Within the same year the first brood hatched in March by the pullet, laid ten dozen of eggs, commencing early in August. Since November 14, 1867, my remaining twelve have laid 21½ dozen of eggs, that have been sold, and we have used at home what we needed up to this date.

Moretown, Vt., Jan. 28, 1868. M. B. TAPLIN.

REMARKS.—Another correspondent, "R. B. H.," of Amherst, Mass., has been more unfortunate with the Brahmas. He writes:—"In the fall I had 40 as fine looking chickens as I ever saw, twelve crowers, twenty-eight hens, nearly pure blooded Brahmas. The roosters were very large and all of last year's growth. I have taken more pains with my hens than ever before, giving them warm feed, with meat and scraps mixed, and corn at noon, and a warm place to roost. Well, I have had but two eggs since the 15th of November. Some of the roosters have died and several of the hens. The why I would like to know. If that is the way with Brahma fowls, I want no more of them."

DISEASE IN HORSES.

A number of colts and horses are sick in this vicinity, and no one has yet been able to tell what the disease is. The first symptoms of disease are manifested by restlessness and a gaunt look. It seems hard work for them to stand on their hind legs, and they want to lie down most of the time. In two or three days, a swelling commences between their hind legs which sometimes extends out on to the belly nearly to their fore legs. The swellings, when perforated, discharge a colorless liquid, like water. Those that are sick do not seem to lose their appetite, and none have died as yet. D. P. J.

Newark, Vt., March 23, 1868.

REMARKS.—We are informed by Mr. D. P. Matthews, of Winthrop, Mass., whose advertisement of Cattle Feed appears in another column, that after having lost six horses by a similar disease, worth from $250 to $300 each, he applied to Dr. William Saunders, of Salem, who prescribed for and cured the seventh one, then sick. The swollen parts were bathed with ground mustard, steeped in water and cider vinegar, and then bound up by a cloth fastened over the back of the horse, and some medicine administered, which he supposed to be of a laxative nature.

APPLICATION OF MANURE.

As this subject is under discussion in the FARMER, allow me to express my views. Surface manuring I consider good practice, under certain conditions, or, rather, that it may be well to apply certain kinds of manure to the surface. Green manure should be composted with muck or something to fix the ammonia before it is applied as a top dressing. My own experience will not allow me to believe that it is an economical way to take manure green from the cellar and spread it on the surface, there to remain and evaporate as it most certainly will; for we are all aware of the disagreeable odor that arises from such an application. And is not the portion thus evaporated the most valuable part, the very essence of manure?

Neither can I agree with Mr. Cheever in regard

to spreading manure on the snow in winter. Several years ago, I spread a quantity on the snow in February, on about one-half of a piece, to be sown with barley and seeded to grass. The other half of the piece was manured in the spring. And now for the result, which I cannot give in bushels and pounds, but merely by observation of myself and neighbors, whose attention was called to this field. Where the manure was spread in the winter, there was not more than two-thirds as much barley as where it was manured in the spring, and the grass showed about the same proportion. The land was flat, so that the manure did not wash off more than it usually does from such land. Does it not wash from all land when there comes a heavy rain, and the ground is covered with solid ice, as it often is when we have heavy rains in winter and early spring? I believe it a better way to haul the manure out, put it in large heaps to be spread in the spring. I think there is a great waste in spreading manure in winter. The brooks and streams carry off too large a part of it. Still some of my neighbors spread their manure as Mr. Cheever recommends. A. L. W.

Hope, Me., March 13, 1868.

RED WATER IN COWS.

I think the cases of "red or bloody water," referred to by "B. B. S.," in FARMER of March 21, is a disease of a different character entirely from that I alluded to in a former article. I never knew an ox, or any other animal, but the cow attacked with the disease, and she always within ten days after calving. I think a man would be very foolish to knock an animal in the head as long as it would eat sufficient to fatten, as in the case of his father's ox, or in any other case where there is any prospect of a cure being effected. I admit I did not give a description of the disease which I will now do as well as I can:—

The urine in the above disease does not have the appearance at all of blood mixed with water, but the color is very much that of a strong decoction of hemlock bark. The cow appears in much pain and refuses food of all kinds, eyes glassy, and she grows weak very fast; and in my experience, has always died in from two to three weeks, if the disease was not checked in its first stages. A year ago this spring a townsman came to me and said he had been told that I had doctored cows for the red water, with success. Upon inquiry, I learned the cow had a calf two weeks old, had been sick eight days, and was very weak. I gave him the prescription, but told him I thought it was too late to save the cow. He procured the medicine and administered it according to directions, but with no effect, and the cow died a week after. I think if I could see friend "B. B. S.," I could convince him that there are times where it is best to knock an animal in the head. Some people can write better than they can talk, but I can talk better than I can write. LEANDER TAPLIN.

Chelsea, Vt., March 20, 1868.

PAID UP THE MORTGAGE.

In reply to "C. B. R.," I will say, I have paid for my farm in the way to which he alluded. I was a poor boy; my father let me work for a farmer till I was twenty-one years of age; but I had none of the pay, my father taking that, and clothing me very cheaply. At one and twenty, I left to learn a trade. At twenty-seven years old I was married, bought a house and shop in the village for $1000, running in debt for it. I paid $200 with annual interest yearly, until all was paid in five years. I lived there eighteen years, when for the good of my seven children, I sold out in 1850, for $1200, and bought my farm for $2050. I paid $800 down, and had time on the rest. Every cent of it was paid long ago. When I commenced farming, I bought stock, tools, seed and fruit trees. I always kept in mind the improvement of the farm. I have been offered $4000 for it twice, and refused it. I never was sued in my life for a debt of my own contracting. I have been careful to see that my children were educated, and have contributed something for the support of the gospel, and have paid for newspapers, especially agricultural journals. I am now sixty-three years old, with poor sight and little education. C.

Norwich, Vt., March 18, 1868.

REMARKS.—Something over thirty years ago, we had some personal acquaintance with our correspondent, with his shop, and with the farm on which he now lives, and we are pleased to learn of his success and prosperity. The reminiscence, however, is saddened by the reflection that of four of his sons who were in the Union army, only two returned to their pleasant home—of the others, one rests in Louisiana and one in Virginia.

BEANS FOR SHEEP.—WATER FOR GEESE.

In reply to an inquiry in the FARMER of the 7th inst., in regard to beans being injurious to sheep with lamb, I will say, though it is the first time in my life that I have ever written anything for publication, that I have fed beans to sheep more or less for twenty years, and always with good effect; never having lost a lamb, to my knowledge, in consequence, but have saved many by the judicious feeding of beans, when the sheep were thin in flesh. I have fed them ground and unground; but, as I believe all grain should be ground when fed to stock, I think the best way that I have ever fed them is by mixing and grinding together one bushel of beans with two of corn in the ear.

To "Anser," of Taunton, Mass., I will say that I have kept geese with good success, in a pasture along side of a stream of running water, into which they were never known to go for the season, being supplied with water to drink from a trough where the cattle drank, and do not believe they need more than enough to drink, any more than other fowls. FARMER.

Dover, Maine, March 14, 1868.

UNDERDRAINING FOR ORCHARDS ON WET LAND.

In reply to the inquiry of Henry Bell, of South Halifax, Vt., in the NEW ENGLAND FARMER of February 22, 1868, as to managing an orchard on cold land, too rough for cultivation, I would recommend under-draining as the best thing that can be done for such land. As different individuals have different notions about under-draining, I will give my way of doing it. If the land is very wet, the drains should not be more than four rods apart. I go in for a good drain, say three feet wide and from three to four feet deep, throwing the first twelve or eighteen inches on one side, and the bottom, or last that is dug out, on the other side. Where small stones are plenty, I fill the ditch to within one foot of the surface with stones, then cover the stones with hemlock or pine boughs, then fill in with the earth last taken from the ditch or drain. Sometimes it is necessary to have cross drains. After draining, I should take a grub hoe or a pick and dig up the grass around the trees, say some four feet each way from the tree, then mulch or manure. Pasturing sheep is a very good thing for an orchard, but it is death for the sheep, and I think it would be for the calves. B.

New Gloucester, Me., March 23, 1868.

ELASTIC HORSE SHOE CUSHION.

This invention, concerning which we have had some inquiry, is shown in the accompanying engraving. We have seen some very favorable evi-

dence of its value in cases of corns or tender feet, and one gentleman who had tested it for lameness caused by excessive paring of the foot, stated to us that it proved immediately effective in removing all traces of lameness. It is also said to be a sure preventive of "balling up" in winter, or picking up stones, and in summer breaks the concussion when driven over pavements or hard roads.

MILKING COWS BEFORE CALVING.

I have practiced taking it away for four years, in every case but one, which was a heifer that calved unexpectedly in the pasture. Her bag became considerably inflamed, but none of the others were so. A heifer coming four years old, dropped her second calf last night, March 20. Four days before the 16th, I took three quarts; on the 17th, three quarts; the 18th, 6 quarts; 19th, twelve quarts, and 20th, ten quarts, and the milk all right for use now. She had been milked thirteen months, and had been dry thirty-five days, previously. She has a very fine and large half Ayrshire calf. In my observation, milk rarely comes into the udder, much more than thirty-six hours before calving; but when it does I think it is better to be taken out, and by so doing have not known any injurious effects ever to follow. What say others?

Randolph, Vt., March 20, 1868. LACTIS.

AYRSHIRES—PROPORTION OF SEXES.

In your quotation from the *Country Gentleman* in relation to the proportion of "75 to 80 per cent. males," I think you mistook Alderney for Ayrshire; but the statement is probably as true of one breed as of the other, and in fact of all breeds. I allude to this subject now because I am a believer in a theory of producing sex to order; and I wish to have it tested as thoroughly as may be the coming season. It originated in Germany, and was explained in part by Prof. Agassiz at the New England Fair at Springfield. My experiments with cows and sows for the last three years, lead me to think the theory is correct, but there is some difficulty in rendering it practicable for lack of certain physiological knowledge, which I think will yet be attained. My experiments have resulted in securing at least three-fourths of the births of calves, females. Without repeating the theory here, I wish to say to all stock raisers, if you desire to raise females, cause impregnation at the *first possible* moment; if males, at the *latest* possible moment. There is one circumstantial evidence supporting the theory, in the observation of nearly all neat stock breeders; that is, as it is generally considered that impregnation at the *latest* moment is more *sure* of causing conception, it is generally deferred till then; consequently the theory of 75 to 80 per cent. *males*. TRY IT.

Vermont, March, 1868.

HOW TO MAKE A SMALL MANURE HEAP.

Some twelve years ago I bought twenty acres of land, for which I paid $500. Being a mechanic, my neighbors said, "Baker, you're sold." The land had been neglected, and yielded but little. Having no manure except what I needed for my garden, I asked my neighbors what I should do. Some said, "send below, and buy fertilizers." Believing that what had been done by one man might be done by another, I thought if they can make fertilizers "below," I can make them here. So I hired a man, a good farmer, and put him at work on the land in fair weather, and in foul, I took him into the shop. Upon about one-fourth of a cord of backhouse accumulations, I threw one peck of lime. This destroyed all unpleasant effluvia. Portions of this were then put into water in a half hogshead and stirred up. Having about a cord of muck under my shed, I spread a layer of this upon the ground and saturated it with the water from the cask; then more muck and more liquid, until I had worked into one heap the manure, muck, one bushel of lime, four bushels of ashes, four pounds of copperas, and half a bushel of salt. This laid until by thrusting in a stick I found it was heating, when it was shoveled over. In this way it was overhauled three times.

I then ploughed up about three-fourths of an acre of land which had not paid for planting, sowing or mowing for fifteen years, to my certain knowledge. After harrowing it, and furrowing very shallow, a little of my manure was scattered where I wanted a hill of corn. I made it last like the widow's oil, and until the whole field was manured. It was hoed twice, and I harvested forty bushels of corn which was as good a crop as I have generally raised from the same quantity of land by putting on fifteen or twenty loads of green manure, and ploughing it in and then manuring in the hill.

CR.

40 bushels of corn, worth 75c per bushel at that time	$30.00

DR.

1 bushel lime	$1.00	
4 bushels ashes	1.00	
4 pounds copperas	33	
½ bushel salt	1 50	
1 cord muck	1.00	
Ploughing ¾ day	1.50	
Hoeing twice	4.00	
Hilling	2.00	
		$12.33
Profit,—fodder paying for harvesting		$17.67

Not so badly sold that time. One year ago next March, with what there was left of me, I turned farmer. I tried the experiment with hen dung and loam, putting in the lime, &c., as before. I put it on the corn after hoeing, on about three-fourths of a two-acre piece. During its growth I did not discover a marked effect. In harvesting I was assisted by my neighbor, Mr. Alvord; and we concluded there was one-third more in weight of

ears on that part of the land to which the compost was applied. Does not this show that we have the ingredients for making our own fertilizers?

How did it happen that the old man in your paper of January 15th, hailed from Brookfield, Mass.? Perhaps I was thinking of my younger days, when I was manufacturing scythe snathes, in Sterling, Worcester County, and wrote, "Mass." I will try to do better this time. V. B.

Brookfield, Vt., Feb., 1868.

LAUREL POISONING.

About two years ago we published several remedies for sheep and lambs poisoned by eating laurel on being turned in the spring, when hungry for browse, into pastures in which this shrub grows. Among the medicines recommended were a strong decoction of bruised white ash twigs, a gag to prevent the animal from swallowing the greenish fluid which it is constantly gulping, lard, castor oil, sweet oil, &c.

Mr. H. C. Merriam, of Lowell, Mass., informs us that he invariably provides a quantity of castor oil every spring for this purpose, and that he finds it entirely satisfactory, if administered in season.

Mr. William Morse, of Canton, Mass., administers four or five teaspoonfuls of a mixture of two parts chamberlye, and one part yellow loam, by measure, with success, in case of lambs; and something like a pint for horned cattle, of which he has had some badly poisoned. In case of cattle, it must be given from a bottle. Yellow sand will not answer. It must be that yellow loam, which, when rubbed in the hand leaves a distinct coloring on the palm.

FEED FOR SUCKLING SHEEP.

Will some of your numerous readers inform me which is the best feed to start the milk in sheep that are having lambs now, but do not have milk enough. The sheep are in good condition. Turnips, I have none. G. W. Davis.

Wait's River, Vt., March 26, 1868.

Remarks.—The suggestions of experienced sheep raisers on this point will undoubtedly prove useful to many young and less experienced farmers. Pasture feed is probably the one thing needful. But when this is not to be had, the nearest possible approximation to that is naturally suggested. Roots, browse, early cut hay, &c., have undoubtedly been thought of by our correspondent. Other things being equal, some cow keepers say that water, slightly warmed, will, in cold weather, considerably increase the flow of milk May it not be so with sheep?

THE SICK OX.

I have cured several oxen with symptoms like those described by "A Subscriber" in Farmer of January 25, by filling an emptied egg shell with soot from a stone chimney, powdered and mixed in equal quantities with fine salt, and putting it down the ox's throat. Administer one such dose each morning for three days, then omit for three days, and repeat until you have given it nine mornings. Amos Kidder.

Alstead, N. H., Feb. 1, 1868.

Ladies' Department.

SCHOOL CHILDREN.

Past my window, cloud or shine,
Daily patter little feet,
Through the rain, or wind, or sleet,
On the cold and icy street,
Patter daily little feet.

First I heard them in the spring,
When the golden-vestured hours
Brought the first young straying flowers
From the Southland's fadeless bowers
To this wintry realm of ours.

Some were rough, and brown, and bare
Some were dressed with nicest care;
Some were merry, chubby, fair;
Some were slow, and scarred, and spare—
Taught too soon life's toil to share.

But these varied little feet
Patter up the self-same street,
Running oft along the edge,
On the green turf by the hedge,
So to feel the soft caress
Of the violets they press;
But the violets I weet
Tenderest are to scarred feet—
Unlike thoughtless human love,
Soothing least what needs its love.

Every morn I listen now
For the sound of little feet,
'Neath my window in the street;
And I wish to be a child,
With heart free as tresses wild
From the world's restraint and rule,
Hurrying to the village school. S. C. W.

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER X.

WOMAN'S OUT-DOOR WORK—GARDENING—VINES.

"'Woman's out-door work,'" says a fastidious reader,—"woman's out-door work?" We are not savage Hottentots, to build the hut, and hunt and fish, while our lords and masters smoke, or sleep, or quarrel; nor half-civilized Chinese, to delve and dig while John tends the babies, and cooks the rice, and does the weekly mending; nor yet, stupid, ignorant European peasants, whose uncouth figures and hard features and bronzed complexions tell of the degrading toil to which they and their ancestors have been doomed for centuries.

Do not be too hasty, friend. Surely the good housewife even here, in free America, in this age of culture and refinement, has out-door as well as in-door duties to perform. Duties, too, which she may not delegate to others without depriving herself of large means of intellectual and physical

vigor, which she cannot neglect without stinting her rightful portion of happiness and doing violence to the dictates of her better nature. I would not be understood as advocating any course of conduct contrary to the directions of St. Paul that women should be "keepers at home;" but there is nothing incompatible with the good name of *housekeeper* in spending a portion of every day outside the walls of the house. Not in needless shopping excursions, nor yet in merely listless walking—"spinning street yarn"—as the old adage says; nor in running about among neighbors, wasting time and strength in useless chatter.

It is a sad truth that until quite recently American women have suffered both in mind and body from too great confinement to the house. False notions of refinement and delicacy forbade their engaging in any employment, and kept them from participating in amusements that might take them beyond the atmosphere of close rooms. In cities and towns this was particularly the case; while even farmers' wives and daughters had begun to entertain the same foolish ideas, a demure walk or ride to church or to the city, once a week, being usually the only exercise which they took in the open air, besides the few minutes daily spent in arranging the milk-pans in the yard, or in feeding the poultry. And these trifling matters could not be accomplished without the protection of poke-bonnets and parasols, because everybody had such a horror of tanned and freckled faces and stout and vigorous forms. Said a lady in reply to an inquiry as to the health of her daughter (ironically, for she had no sympathy with such silly notions) "A—— has the misfortune to be well—*vulgarly* well—*unfashionably* well."

Certain it is that so cadaverous-looking creatures as our New England girls were getting to be had never been seen outside of nunneries, nor a more nervous and melancholy set. Peevish, discontented, and sickly, they were fast losing all claims to loveliness, when a few clear-sighted and deep-thoughted individuals promulgated new doctrines of health and beauty, and set the fashion of greater freedom in woman's dress and manners. Yet, as we usually oscillate from one extreme to the other, there is danger that the reformers of woman's laws and habits may carry their work so far as to rob her of that modesty and discretion which are her brightest jewels. Loss of bodily health from the most rigid seclusion would be far preferable to this deprivation of qualities so essential to the well-being of her moral nature. While we avail ourselves of all opportunities for a reasonable indulgence in out-door pursuits, let us be careful never to overstep the bounds of a lady-like propriety in any of our doings, and never commit an offence against the principles of Christian manners which form the basis of all womanly conduct.

We sometimes hear complaint made of the drudgery to which women are subjected, either in overseeing, or in accomplishing, the needed housework of the family. The condition of farmers' wives is said to be little better in that respect than that which used to be endured by the Southern slave-woman. If this be so, false pride, or ambition, or penuriousness, or all three of these daughters of the horse-leech are at the bottom of it. But I doubt if it is actually the case. Housework never degenerates into drudgery when performed judiciously and with a cheerful spirit. In the words of good George Herbert, so often quoted

> "Who sweeps a room as for God's laws
> Makes that and the action fine."

This drudgery, this housework, it is said, is wearing out and breaking down the constitutions of the best women in our land. Now, the trouble lies with the worker, not with the work, for it is one of the most healthful of occupations. The fact is, the larger part of all housekeeping operations are carried on in small ill-ventilated rooms, apartments that are either excessively hot from the use of stoves or ranges, or kept cool and comfortable—not to say *damp* and *dark*—by excluding as much of the sun as possible. This, more than hard labor, is the cause of the feebleness, and weariness of soul and body, for which the overworked farmers' wives receive so much commiseration. There is a remedy, close at hand, if they will only use it—out-door work, as a sort of recess from the requirements of the house, which should be taken every day, regularly. Moderate, yet active employment in the open air, where we can inhale the free breezes and bask in the unobstructed light of the sun, is all that is needed to renew and invigorate debilitated frames and exhausted energies; the sun-bath, latterly so highly extolled as a panacea for all ailments, is never required by those who take a daily portion of its life-giving rays.

But many will say they are well enough, and that they have no time to spare for anything not actually bringing them or their families some advantage,—this word *advantage* being but a synonym for *gain* with them. Having always an eye to utility, they do not understand how it is that matters whose value cannot come within the scope of dollars and cents may yet be more precious than gold. Good housewives, I trust, will make no such answer. They ought eagerly to undertake any employment, suited to their capacities, which will give them an hour's recreation each day from the monotonous cares and duties of indoor life. The occasion must not be neglected, even if it brings them only the one benefit of diverting their thoughts into other channels and thereby resting and refreshing the brain. Too many forget, or are unaware, how important it is for the mind to have rest and refreshment. They often realize the exhilarating effect which a change in the subject of their thoughts for a few minutes lends to their whole being; but they do not deem it necessary to provide for such a change; so they go on—day after day—month

after month—in the same dull round of housekeeping within doors. Regardless of the close union existing between mind and body, and how each must suffer from the misuse or overuse of the other, they consider themselves well so long as bodily health and strength are not impaired,—though they find that they are getting morose and moody, restless and discontented, and complain of a failing memory and of a want of interest in everything that should concern them deeply. Besides these troubles, it will not be strange, if, in consequence of such infirmities,—for infirmities they are, and of no slight danger, either—they are sorely tried by unfaithful and impertinent servants; while the children become disorderly and unmanageable, and even the husband and father gets unreasonable, and is quick to chide and find fault.

When a woman sees that herself and her family are falling into this deplorable state, she must break away immediately from her self-imposed fetters of seclusion and absorption in household cares and toils; and seek relief and relaxation for her perplexed and wearied brain in noting the beauty and the order which the Creator has spread around us in such variety. Setting aside, and trying to forget, her own imperfect and unsatisfactory labors, in the contemplation of God's perfect handiwork, her life will become ennobled, and her days be crowned with such peace and harmony as shall cast a bright reflection upon her household, and they, walking in that light, will more readily entertain and cherish holy and beautiful thoughts, and be stimulated to higher and better deeds.

Do you ask where is the field for this out-door work of woman? It is here, around her own dwelling, upon her own premises. It is actual manual labor—something which shall give exercise to all the muscles and all the thoughts, and that will require regular daily attention—that we want. And this we have in cultivating the soil and caring for its productions; in one word—*gardening*. Every woman ought to find it, as did Eve in the first garden, "a pleasant task to tend plant, herb and flower;" and even digging, hoeing, raking and weeding, neither difficult, nor tedious,—which she will after a little experience, if she use proper implements and wear a suitable dress.

No matter how barren the ground, or how humble the cottage, she may make it a scene of beauty and grace; providing happiness for all who behold the result of her labors, as well as garnering up for herself rich stores of strength and wisdom. Astonished and delighted by the wonders and glories which she discovers and develops, all the members of her family will vie with her in prosecuting the work; till the loveliness of the world around them will be but a counterpart to that beauty of holiness that so fills their hearts, that God himself, as in the Eden of old, will draw near, and talk to them in that celestial speech of which the lily and the rose are the best interpreters.

Do not wait till you own the house and land before you begin the work,—you will derive more benefit than the owner from your labors. Nor, if it is homely and old, till its appearance can be improved: vines and trees and shrubs can be so tastefully arranged around an ugly building as to lend it comeliness,—perhaps give to the view a more picturesque effect than if it were newer and grander. And don't refuse to spend your time and thoughts on even the smallest spot; a yard of ground may be the source of health and pleasure to you and your family.

Suppose you live in the city, where only a narrow strip—a few inches—of soil borders your dwelling. Even this may hold a vine, which you can train and trim, and which, climbing along the walls and drooping over the windows can curtain them with beauty and afford you many a recess from household toil, in watching and assisting its growth and the formation and perfection of its fruit. If, besides this, you have a small enclosed piece of ground—a "yard," you call it—where the children play, or rubbish accumulates, you can keep it neat, and dig and break up the soil—which is perhaps nearly as hard as the pavement—and plant there pretty shrubs and flowers; and teach the children to help you in ridding it of weeds, and in watering and stirring the soil. But if you are fortunate enough to have the control of a rod or more land you may consider yourself rich in material for health and happiness. This you may dignify by the name of *garden*.

The word Garden is derived from the Hebrew, and means an enclosed or protected spot for pleasure or delight. Hence places of amusement are sometimes called gardens, although they include no plants and show no traces of cultivation. But this primitive meaning of the word proves how naturally man turns to the simple grandeur and beauty of the vegetable kingdom for that real enjoyment which springs only from the gratification of his purest tastes.

Everybody knows there is great diversity of soil, and that soils may be altered to suit the vegetation desired. Earth is not soil. It is merely mineral matter—the broken and pulverized crust of the globe—only powdered rocks, we may say; and it needs the decomposed remains of animal and vegetable matter before it can become soil. Their decay imparts to the mineral particles certain substances which are necessary to the support of vegetable life, and sets free certain gases on which the germination of seed depends. Now, as soon as the smallest layer of dust is wrought out of the rock by the restlessness of air and water, little particles of vegetation—too minute often to be seen—being wafted to the spot, mingle themselves with this dust; and insects, seeking food and lodging for themselves and their progeny, burrow and build among the particles, then die and

add their portion of animal matter to the earth, and we have soil. Then the birds or insects or the wind drop upon this layer of dust, just made fertile, the seeds of the lowest forms of vegetation—lichens or mosses; and these spring into being, and absorb nourishment from the dews and rains, as also from the air, and then die and add more largely to the deposit among the rock-dust, and make it yet better soil—more suitable for supporting and promoting the growth of plants. And so the process goes on: each successive life and decay, whether animal or vegetable, or both, deepening the soil, till we have it ready for our luxuriant fields of grain and our elegant gardens and magnificent forests. From time to time, as the ground passes from one proprietor to another, its component parts are modified; and its crops vary according to the wisdom and discretion exercised in its cultivation.

All plants should have their proper soil—that in which they can attain their most perfect growth. For garden plants the hazel-colored loam obtained beneath the surface of the ground when excavations are made, is said to be best: it often has a good effect upon old fields and gardens when thoroughly mixed with their surface-soil. Black, or very dark-colored, is warmer than the light soil; and if not too heavy, brings its plants more quickly to maturity. But all soil must be loose in texture. This it is apt to lose in cultivation, and it can only be kept by constant hoeing and stirring—sometimes by the addition of sand and gravel. The gases generated in its bosom, which are essential to the health of its vegetation, cannot escape unless due attention is paid to this matter.

Besides good soil, plants need light, and sunshine, and air, and water; there must be care in the arrangement of a garden so that all may get their proper share of these good gifts. Nothing is gained by crowding or stinting. One plant with ample room for air and sun will attain a better growth, and put forth more blossoms, and perfect more fruit, than twenty dwarfed and starved by trying to live in too limited space.

A woman's first thoughts in making a garden are what flowers she shall have and how she shall place them. But it will be well for her to try her hand also at vegetables—a few for family use. And then, if she has land enough, fruits—the smaller ones, especially. But, above all, she will want trees: because, after all her delight in the frail beauty of the flowers, she feels a deeper, a loftier joy in the grandeur and glory of their leafy arches, which year by year point higher and higher towards heaven; while in the rustling of their verdant boughs she seems to hear sweet whisperings of peace, which they have thence brought down to quiet her restless soul and over-anxious heart. If it be possible, plant at least one tree. Not only for the joy and peace that it can impart, but to keep your memory green in the days when your feet may no longer walk along the household ways, and your voice is no more heard within the walls of home.

But a tree requires much room to spread its branches, so many must content themselves with the next best thing—a vine. This is the most graceful of plants, and always desirable—because it so readily hides ugliness and deformity. No house should be without one, for a hand's breadth of soil in which to place its root can certainly be found by every dwelling.

THE VINE, *par excellence*, the common grape, *Vitis Vinifera*, gives its name to the whole great family of climbers and runners; and commends itself first to our notice, with its refreshing shadows from the sultry noons of summer and rich burden of luscious fruit for the autumn—if we care nothing for the delicate fragrance of its modest blossom in the spring-time. Long before gardens were designed, or mankind dwelt in houses, the wandering tribes of the East had discovered the healthful properties of the grape, and so when they settled into communities each man had his own vine. As civilization advanced, attention was paid to its culture, till large tracts of land were set apart for this particular purpose. Almost from time immemorial these vineyards have been a source of wealth to the southern part of Europe; and when the Spaniards took possession of Central America the Romish priests carried thither this vine. It flourished luxuriantly, spreading throughout Mexico and Texas, and, finally, reaching California; some parts of which at the present time are prolific in a wine-bearing grape—descendant of this stock. For many years attempts were made in the United States to naturalize the wine-grape of Europe, but the climate proved unfavorable. Our wild vines then began to attract the notice of horticulturists; and by careful cultivation, crossing and re-crossing with other species—both native and foreign—we have now many delicious varieties.

The first seedling from a native grape, that was satisfactory, received the name Isabella, in honor of Mrs. Isabella Gibbs, who raised it, about the year 1818. It thrives well throughout the country, except in the northern part of New England, where the autumn is too short for the perfection of its fruit. It varies greatly, both in flavor and appearance, according to the locality in which it grows; but when well-ripened it is always a favorite. It can be kept through the winter, by packing with cotton or saw-dust, in a dry, cool place. Soon after this variety was introduced came the Catawba, from the banks of the river so-called, in North Carolina. For many years these two were the only or nearly the only kinds deemed worthy of cultivation.

Then came the Delaware, a native of Ohio. Its beautiful, compact bunches of small berries, rich in nectareous juice, suit the palates of the Yankees so well that they are willing to give it the protection and shelter that it needs to get through their long, cold winters. After this, the Concord, originating

in Concord, Mass. This is one of the hardiest and most prolific of grapes, and ripens earliest. Then there are the hybrids, obtained through the care and patient skill of Mr. Rogers of Salem, Mass., yielding handsome and delicious fruit. But individual tastes vary so much in deciding upon the qualities of different species and varieties of the grape that, if you are about making your first attempt at its culture, the wisest course to pursue is to procure an offset of one that has been most satisfactory in soil and location similar to your own.

The care of a vine any woman can attempt—with the exception of taking down and putting up its higher branches. With a spade and fork, of suitable size, she can dig the soil, set or plant the roots, and keep the ground upon them in good order. She can also do much of the pruning; and train its branches more naturally and gracefully than a man would be likely to do. As a general thing, common garden soil, if it is light and warm, is sufficient for the grape. Wood-ashes are an excellent fertilizer for it, also soapsuds and all the slops of the house. Broken bones, or bone-dust, and gypsum, may be used if the soil is sandy.

For planting, take strong, well-rooted vines of two years, and be careful to spread out the roots so that they do not cross or overlay each other,—if they get tangled and knotted the flow of the sap is interrupted and they will not flourish. Set them about six inches below the surface of the ground. A successful cultivator says that the best time for pruning grape vines is the early part of November; and that leaf-mould or chip-dirt, an inch or two deep should cover the earth upon their roots through the winter. The branches should be taken down every autumn at this time, and covered in the same way, until the vines are very large. If vines put forth a great abundance of foliage, some of the leaves may be taken from branches where no fruit has set, or the end of the shoots on which the grapes are growing may be cut off; but full-grown leaves near the fruit must on no account be removed, unless they are diseased,—early leaves must never be taken, because an early and good crop of fruit depends much upon the leaf's protection in its first stages.

A housekeeper who has once realized the advantages of a grape vine will never be without one. Aside from the attractive appearance it gives to home—as it hangs upon the blank, bare side of the house or barn, and covers the clumsy porch and shed—and the pretty arbor of leafy coolness it makes for an hour of quiet reading or musing in the wearisome midsummer days, the convenience of its fruit for family use should not be lightly esteemed. But in our enthusiasm for the grape let us not overlook other vines, which, if yielding us no bodily nourishment, yet serve a high intellectual purpose as ornaments for our grounds. The eye delights in variety of scenery, and the different climbing plants add each their peculiar charms to the view.

Next in order, by reason of beauty and strength, stands the *Ampelopsis quinquefolia*, the American woodbine, or Virginia creeper. It grows wild in our woods, climbing over the gnarled oaks and maples, and creeping and hanging around the rocks. The leaves are very glossy, of a deep green till autumn; then they change to scarlet and crimson, shading off to a rich purple, and have a fine effect falling upon gray walls, or drooping over the white porches or porticos of houses. The flowers are small, of a dull, greenish red, and produce clusters of dark blue berries, said by some to be poisonous. It should be set in rich, damp soil, and it flourishes best away from the full heat of the sun. Bring it from the woods late in the fall. It can be increased by slips or cuttings. It is so hardy,—needing no protection from the frost—and so cleanly, and so beautiful in its autumnal glory, that it ought to be more widely cultivated.

The *Celastrus scandens* or Climbing Bitter-sweet, sometimes called Staff-tree and Waxwork, is another native vine of great beauty. It is a strong and rapidly growing vine, easily trained over arbors or upon a trellis. The foliage is a handsome green; the flowers, also green, are insignificant, but the fruit is highly ornamental. Long after the winds of autumn have denuded the vine of its leaves its clusters of five or six berries—or rather, capsules, which open their bright orange doors and disclose the coral-like berry—give an exceedingly cheerful appearance wherever they hang. Long strips of the leafless vine, adorned with these brilliant clusters, if gathered before the frost comes, will keep their beauty a great while; and, braided with the Christmas evergreens for parlor decorations, lend an air of cheerfulness to the dullest home. The Celastrus should be raised from seed, or from the young shoots. It delights in a moist, shady situation.

The *Tecoma*, an abbreviation of its Mexican name, *Tecomaxochitl*,—or Trumpet-flower, is our most showy native vine. It was formerly classed among the Bignonias. It is said that it will grow wherever the Isabella grape flourishes. In some situations it needs to be covered with mats or straw through the winter. Its foliage is of a light green; its blossoms, which are tubular, are sometimes three inches in length, and over an inch in diameter at the mouth. They are of a scarlet-orange hue and grow in bunches. During two or three weeks in July they are a gorgeous adornment for the verandah or doorway. The Tecoma or Bignonia is raised from cuttings or layers, or from seeds, which follow the blossom in long coarse pods. It thrives well in a soil of sandy loam, and likes a plenty of sun.

The *Clematis*, Traveller's Joy, or Virgin's Bower, is deservedly a favorite among wild creepers. It grows rapidly, and bears an abundance of white flowers. These are succeeded by winged seeds, growing in tufts—looking like elegant plumes. Strips of this plumy vine are also beautiful for indoor decorations. The plant is easily raised from

seed or cuttings. It does best in a damp, secluded place. Much of it perishes every autumn, but still the vine grows steadily. There are several foreign species under cultivation bearing purple, white, or blue flowers, which are fragrant.

Of all flowering vines, the *Wistaria sinensis* is considered the most beautiful. It was brought from China in 1818 by Dr. Wistar of Penn. It is rather tender and thrives best on the south side of a house. It needs light, rich soil. The blossoms, which hang in long clusters, are of a delicate purple and yield an exquisite fragrance. They make their appearance in May—before the leaves put forth; and again, in August, they cover the vine. The foliage is of a cool, bright green. The vine should be taken from its supports in the autumn and covered with stable litter. It is increased by layers or cuttings.

The *Lonicera*—bearing the name of Adam Lonicer, a German botanist, is the Honeysuckle, called in England, Woodbine. We have two or three native species. The Scarlet is the most widely known. It is quite hardy and easily raised from cuttings. The blossoms resemble those of the Tecoma, but are much smaller. Being a steady bloomer it is a fine ornament for a porch or door. The Dutch Honeysuckle, the monthly sweet-scented, is a fine variety, with more showy and deeply shaded flowers. The buds are purplish—the open blossom is of cream-color and white. The seeds, in a scarlet berry, look very pretty long after the flowers have gone. There is nothing sweeter than the fragrance of this blossom after the evening dew has fallen upon it. Plant it at a western window or door. Sow the seeds in the autumn, or take cuttings in the spring.

Of climbing Roses, the *Boursault* and the *Prairie* are the most hardy. The common Boursault produces dark crimson flowers, of a velvety texture, in great profusion. The blush Boursault bears larger, fuller flowers of a bright pink. These are very elegant for a trellis. The *Michigan*, or *Queen of the Prairies*, is yet handsomer; its blossoms, of a bright, glowing hue hang in large, heavy clusters. None are fragrant. But there is an old-fashioned white rose, bearing a semi-double flower which yields a delicate perfume. With careful trimming this grows to the height of twelve or fifteen feet. All of these roses are very easily raised from cuttings.

Besides these vines of a perennial growth there are many annuals that may be trained against the house, or over trellises, or upon pillars. The Canary-bird Flower—*Tropæolum peregrinum*, the blossoms of which when partly open bear some resemblance to a bird, is quite pretty. It needs a light soil to produce many flowers. They are of a delicate yellow. Belonging to the same genus is the Nasturtium, some varieties of which yield very elegant blossoms, crimson, scarlet, claret, purple, orange, or light yellow, — plain, blotched or streaked. It needs a light, sandy soil. Plant the seeds about an inch deep and train the plants upon a trellis.

The *Convolvulus*—called by some *Ipomæa purpurea*—the Morning Glory, is our most common annual climber, and it will always be a favorite though its flowers close so soon. The most beautiful species are natives of Central America. The Convolvulus has been much improved latterly, and we get sometimes plants upon which may be found blossoms of all the shades of blue, red and purple—either separate or mingled with white, making a beautiful show. It grows best in a damp soil. Plant the seeds an inch deep, train it on slender lattices, or poles. The *Dolichos*, or Hyacinth Bean, bearing purple or white flowers, is quite pretty. Cultivate it like the Morning Glory.

The *Phaseolus multiflorus*, the Scarlet Bean—Scarlet Runner of South America—blooms profusely, and is highly ornamental. The blossoms, in long racemes, are bright scarlet; the foliage of a deep green. One variety has pearl-white flowers. Plant the seed an inch deep, in light soil a little deeper. Train it like the Morning Glory. It has a very lively appearance about a doorway or over a window. The *Cypress* Vine—*Quamoclit vulgaris*—is a very handsome plant. The blossoms are crimson, contrasting finely with its beautiful green foliage, but they close quickly. *Scald* the seeds, let them lie in the water till cold and plant them immediately in pots. Keep the pots in a warm room, till the plants are two inches high, then sink the pots into the earth, on a southern exposure, and train the vines by strings to a high window; or set the pots around a pillar, or high pole, and arrange twines for them in a similar way. The Cypress Vine is very pretty for a parlor plant through the winter.

Lathyrus odoratus, the Sweet Pea, may be made to climb five or six feet against the house, or upon a trellis, or around a pillar—like the Cypress Vine. Soak the peas over night in cold water, then plant them in rich soil, about an inch deep, five inches apart. Leave the first flowers for seed; after that cut them off as soon as they begin to fade, and you will have their purple, and pink and white wings, heavy with fragrance, fluttering, one after the other, far up the vines till late in autumn. *L. latifolius*, Everlasting Pea, is a perennial plant similar in appearance to *L. odoratus*; it is raised by division of the root as well as seed.

The Climbing Fumitory must not be forgotten. The French call it *Fumeterre*—(of which our name is a corruption) smoke of the earth. Sow the seed very early, in a warm situation. Have a light frame to support it. You can train its delicate foliage into any design that you please. It is a biennial: the second year it will be covered with beautiful pink and white flowers all summer. There is also the *Maurandia*, a delicate creeper for a frame;—this is a perennial, and needs taking within doors for the winter. It has elegant purple, pink, or white bell-flowers. Then there is the *Scypanthus*, a native of South America, with its

curious yellow flowers, which is easily raised from seed every year, and is quite pretty for a frame.

And now, after all these brilliant and graceful objects, let me say a few words in favor of more modest and neglected vines. Take first the Hop: when well-cared-for it grows luxuriantly, and with its large, deep-green leaves makes fine drapery for a lattice. Its ripening clusters of blossoms are a pretty contrast for other flowers in garlands or boquets, and are useful in medicine and cookery. When the scales of these,—the hops,—are filled with their bright yellow dust they should be cut from the vine, and carefully spread upon clean papers, in a close room, till dry to the touch; and then packed tightly and kept in a dark closet till needed. All housekeepers know the value of the fruit of this old-fashioned vine, but seldom pay attention to the beauty of its foliage. Take an offset from a thrifty vine, and set in rich, moist soil: train it over an arbor, or a lattice, or around a pole,—it is handsome in any situation.

The Tomato may be trained upon a fence or the side of a building. Fasten its branches with small bands of leather or canvass. The plant makes a fine show, and growing thus bears an abundance of fruit. Then there is the family of Gourds and Cucumbers. Their foliage is good, and the fruit often singular in its form and of a bright color. The Mock Orange is especially beautiful, resembling that fruit so closely both in shape and color as to deceive the most scrutinizing. Like the tomato these need good soil. They can be made a very effective ornament for dilapidated fences and clumsy out-buildings.

It seems strange that any home should be without vines when there are so many handsome and hardy varieties all ready for use. But as soon as women become convinced of the need of out-door work to improve and perpetuate their health and loveliness, they will see that the cultivation of these graceful plants, being the easiest and simplest of out-door work, is just the employment for their first efforts in horticulture; and will get so accustomed to their presence that no dwelling will appear complete unless its sharp angles and ungainly proportions are softened and shaded by their luxuriant beauty.

[The subject of the next chapter will be "Woman's Work among Garden Plants."]

For the New England Farmer.

TREATS FOR THE LITTLE FOLKS.

Mr. Editor:—I often find in your articles of Household Economy receipts for making cake and other aricles of food for grown-up people, but I have never seen anything of the kind that was expressly designed for children. Now, I have not forgotten the pleasant surprises which my brothers and myself used to find sometimes on coming home from school, in the shape of turnovers, fancy cakes or candy which our mother had prepared on purpose to please us. I do not believe in coaxing children to be good—especially by rewards administering to the indulgence of their appetites,— but a little harmless entertainment that is just fanciful enough to suit their childish tastes may often brighten up a rainy holiday, or a tedious confinement within doors from ill-health, or may add to the enjoyment of a birthday festival. Having a few receipts that have done good service in this way, and supposing there may be others of my way of thinking, I take the liberty to send them to you for publication, if you think them worthy your notice.

Trifles.

Beat one egg and a teaspoonful of sugar together, and then stir in as much flour as will make a stiff dough. Roll it very thin, and cut it into round cakes about the size of an old-fashioned silver dollar. Fry them in hot lard. When they turn over they are done. Take them up; and put jelly in the centre when they are cool.

Wonders.

Beat a quarter of a pound of sugar and the same quantity of butter together, then add three eggs whisked to a froth. Mix them well, and season with nutmeg, then stir in flour till the mixture is stiff enough to roll. Roll it as thin as for cookies. Cut it into pieces two inches square. Make four gashes across it, leaving an edge all round half an inch wide; then cut another gash across the middle to divide the three strips made by the first gashes, and twist and roll and curl them as fancifully as you please. Then fry them in boiling lard.

Marvels.

Dissolve one teaspoonful of soda or saleratus in a cup of milk; season with nutmeg or cinnamon. Make it stiff with flour. Roll it very thin, cut them round, as large as a cookey, and fry them. Sift sugar over them while hot.

Whims.

Rub flour and butter or lard together as for pastry; then beat one egg with as much sugar as it will moisten, for fifteen minutes. Dissolve as much soda as will lie on a dime in a tablespoonful of milk, and mix it with the egg and sugar. When it is well mixed add half a teaspoonful of essence of peppermint or checkerberry. Stir in the shortened flour till it is thick enough to roll. Then roll it upon a buttered tin as thin as for cookies and cut it into strips four inches long and one half an inch wide, and bake eight or ten minutes in a moderate oven.

Snow-balls.

Beat one and one-half cup of sugar with three-fourths of a cup of lard and two eggs. Add two cups of milk and three-quarters of a cup of yeast and a little cinnamon and flour to mould. Let it rise. When it has risen to be very light, roll it thin and cut it into cakes about the size of trifles; lay three raisins on each and roll them into a ball. Fry them in hot lard, and when done roll them in

powdered white sugar till they are well coated with it.

Nut Cake.

Beat two cups of sugar and two-thirds of a cup of butter and two eggs together for fifteen minutes. Mix two teaspoonfuls of cream tartar in three cups of flour and add it to the sugar, butter and eggs. Then dissolve a small teaspoonful of saleratus or soda in a cup of milk and stir it all well together. Pour it into a broad pan that has been well buttered. Sift sugar over it, and then cover it with the meats of walnuts. Bake it twenty minutes.

Cocoa-nut Cakes.

Beat the whites of three eggs very light and dry; stir into them very gradually ten ounces of powdered sugar, then stir in as much grated nut as will make a stiff paste. Take a tablespoonful in your hands and roll and form it like a pyramid for each cake. Place them on paper upon tins and bake them in rather a cool oven till just a little brown.

Dimples.

Beat the whites of three eggs very dry; add gradually three-quarters of a pound of sugar, and beat it till it is well mixed. Blanch almonds and cut them into pieces as small as peas, and stir them into the egg and sugar—you will want three-quarters of a pound of almonds for three eggs. Drop the mixture in spots as large as an old-fashioned cent on white paper, upon a tin, and bake it in a cool oven.

Kisses.

Beat the whites of three eggs to a froth, then stir in powdered white sugar, a little at a time, till you have formed a very thick batter. Add two or three drops of the essence of lemon. Wet a sheet of white paper and lay it on a tin, and drop this mixture upon it in lumps about the size and shape of a walnut. Set them in a cool oven, and as soon as their surface is hardened take them out, and remove them from the paper with a broad-bladed knife. Let the oven cool still more, then place these little cakes—laying the flat part of two together—on a sieve, and return them to the oven; where they must remain for fifteen minutes before they are done.

Sugar Candy.

Three cups of sugar, one cup of vinegar and one cup of water. Flavor with anything you please, or drop in nutmeats cut in small pieces, and boil gently till it will harden when dropped in cold water.

Molasses Candy.

One cup of sugar, one cup of molasses, and a piece of butter an inch square. Boil it till it will rope; then stir in half a teaspoonful of soda, and pour it immediately into a buttered dish. When it is cool pull it and cut it into strips.

Chocolate Candy.

One cup of sugar, one cup of molasses. Boil it till it will rope, then grate into it two ounces of chocolate, (one quarter of a cake,) and after it is well stirred in, pour it into a flat dish; and before it is cold cut it into pieces about an inch square.

NENA.

For the New England Farmer.

WORMS IN FLOWER POTS.

MR. EDITOR:—Will you or some of your correspondents tell me through the columns of NEW ENGLAND FARMER the trouble with my house plants. The dirt is full of white worms, from one-fourth to half an inch in length. I have used woods dirt, and that became wormy in the same way. My Monthly Rose seems to suffer worst of any. One of my neighbors has one that troubles her the same way. M. C.

Northfield, Vt., March, 1868.

REMARKS.—We should advise our correspondent to adopt the following plan. Take the plant from the pot, carefully removing the dirt from the roots. Wash the roots, taking care not to break them. Then repot, in dirt that has been heated in an oven sufficiently to kill any eggs of insects, or other animal life that may be in the soil. A little air slaked lime mixed with the dirt will have a tendency to keep out the worms, besides being beneficial to the plant. Mix in a little powdered charcoal with the dirt, which will keep it sweet, and add to the thrift of the plant. Roses need soil and drainage, and, in the words of Breck's *Book of Flowers*, "are not injured by heavy manuring. I have found that the more manure, if not an extravagant quantity, the better the bloom."